



## Staff Report to the Zoning Administrator

Application Number: **09-0020**

**Applicant:** Dee Murray

**Owner:** Johans Beach Investments, LLC

**APN:** 028-212-10

**Agenda Date:** May 1, 2009

**Agenda Item #:** 4

**Time:** After 10:00 a.m.

**Project Description:** Proposal to demolish an existing single family dwelling, construct a two-story, five bedroom, four bath single family dwelling with an attached two car garage and a four foot fence within the front yard setback.

**Location:** Property located on the south side of Geoffroy Drive, at 250 Geoffroy Drive, approximately 250 feet east of the intersection with 16th avenue.

**Supervisory District:** First District (District Supervisor: John Leopold)

**Permits Required:** Coastal Development Permit and a Residential Development Permit for a fence to exceed three feet with the required 20 foot front yard setback.

**Technical Reviews:** Engineering Geologic and Geotechnical Soils Reports reviewed under Application 08-0472

### Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 09-0020, based on the attached findings and conditions.

### Exhibits

- |  |  |
|--|--|
| A. Project plans                                   | K. Memo, Urban Designer comments, dated 3/5/09.                |
| B. Findings  | L. Geotechnical and Engineering                                |
| C. Conditions                                      | Geology Report review letter, dated                            |
| D. Categorical Exemption (CEQA determination)      | 11/7/08  |
| E. Assessor's Map                                  | M. Excerpt of Recommendations from                             |
| F. Location Map                                    | Engineering Geologic Investigation                             |
| G. Zoning and General Plan Maps                    | prepared by Nielsen and Associates,                            |
| H. Reduced set of project plans                    | dated September, 2008 (report on                               |
| I. Photo-simulation                                | file)  |
| J. Printout, discretionary comments, dated 3/6/09. | N. Excerpts of Discussion, Conclusions and Recommendation from |

County of Santa Cruz Planning Department  
701 Ocean Street, 4<sup>th</sup> Floor, Santa Cruz CA 95060

Geotechnical Investigation prepared  
by Haro, Kasunich and Associates,  
Inc., dated September, 2008 (report

on file)  
O. Comments & Correspondence

### Parcel Information

Parcel Size: 19,166 square feet (EMIS)  
Existing Land Use - Parcel: Residential  
Existing Land Use - Surrounding: Residential and Parks, Recreation and Open Space  
Project Access: Geoffroy Drive  
Planning Area: Live Oak  
Land Use Designation: R-UL (Urban Low Residential)  
Zone District: R-1-6 (Residential (6,000 square foot minimum))  
Coastal Zone: ☒ Inside ☐ Outside  
Appealable to Calif. Coastal Comm. ☒ Yes ☐ No

### Environmental Information

Geologic Hazards: Coastal Bluff; FEMA Flood Zone A  
Soils: 109 (Beach Sand); 162 (Pinto Loam)  
Fire Hazard: Not a mapped constraint  
Slopes: Essentially flat to over 50% slopes at edge of bluff  
Env. Sen. Habitat: Not mapped/no physical evidence on site  
Grading: Grading under 100 cubic yards  
Tree Removal: Six foot tall Cypress shrub  
Scenic: Not mapped resource  
Drainage: Existing drainage adequate  
Archeology: Not mapped/no physical evidence on site

### Services Information

Urban/Rural Services Line: ☒ Inside ☐ Outside  
Water Supply: Santa Cruz Water Department  
Sewage Disposal: Santa Cruz Sanitation District  
Fire District: Central Fire Protection District  
Drainage District: Zone 5

### History

Engineering Geologic and Geotechnical Engineering Reports were reviewed as part of application 08-0472 and accepted by the County Geologist on July 27, 2008. The Geologist has accepted the minimum 25-foot geologic setback from the edge of coastal bluff for the construction of a replacement home on the property.

On January 23, 2009 the Planning Department accepted an application for the demolition of the existing single family dwelling and the construction of a two-story single family dwelling with an

attached two car garage.

### **Project Setting**

The property is located at the top of a coastal bluff on the south side of Geoffroy Drive, at 250 Geoffroy Drive, approximately 250 feet east of the intersection with 16<sup>th</sup> Avenue. The south and east end of the parcel is the coastal bluff, immediately above Monterey Bay. The coastal bluff is a slope in excess of 70 % grade. The property is bordered by the Monterey Bay on the south, Sunny Cove Beach on the east, two and one story residential dwellings on the west and a couple of vacant lots to the north.

### **Zoning & General Plan Consistency**

The subject property is an approximately 19,166 square foot lot, located in the R-1-6 (Residential (6,000 square foot minimum)) zone district, a designation, which allows residential uses. The proposed replacement residence is a principal permitted use within the zone district and the project is consistent with the site's (R-UL) Urban Low Residential General Plan designation.

	<b>R-1-6 Standards</b>	<b>Proposed Residence</b>	<b>Pending Net Site Area Changes</b>
<b>Front yard setback</b>	20 feet	20 feet	20 feet
<b>Rear yard setback</b>	15 feet	46+/- *	46+/- *
<b>Side yard setback</b>	5 feet and 8 feet	5 feet and 62 feet*	5 feet and 62 feet*
<b>Building Height</b>	28 feet	28 feet	28 feet
<b>Number of Stories</b>	2	2	2
<b>Lot Coverage</b>	30%	15.5%	24.1%
<b>Floor Area Ratio</b>	50 %	23%	36%
<b>Parking</b>	5 bedrooms-4 spaces	4spaces-two covered, two in driveway	4spaces-two covered, two in driveway

\* 100-year geologic setback line is 25 feet from the top of slope as established by Geologic and Geotechnical reports.

The California Coastal Commission has approved changes to Net Site Area calculation, which if approved by the Board of Supervisors will decrease the maximum floor area and lot coverage that is allowed on the parcel. If changes are adopted by the Board of Supervisors and Coastal Commission before a building permit is issued, the project, as shown on the table above, will continue to comply with the maximum floor allowed and lot coverage.

### **Residential Development Permit**

The applicant proposes to replace an existing four-foot chain link fence along the bluff edge to keep the general public from trespassing to the rear of the property. The proposed materials are an open style steel fencing and wood posts. A condition of approval has been included that the materials used be non-reflective.

The fence is not located adjacent to the property driveway and will not interfere with sight

distance for cars turning off and on to Geoffroy Drive or for cars traveling along Geoffroy Drive.

A portion of the four-foot fence currently sits within the Geoffroy Drive right-of-way and the project has been conditioned to have this portion removed. From a visual impact perspective the new fence will be an improvement over the existing situation.

#### Local Coastal Program Consistency

The proposed residence is in conformance with the County's certified Local Coastal Program, in that the structure is sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Developed parcels in the area contain single family dwellings. Size and architectural styles vary widely in the area as the neighborhood is in a transitional phase where one story homes are being constructed into two stories. In addition, the two homes immediately adjacent to the property are large, newer two story homes. The proposed home will be two stories immediately adjacent to the neighboring property and will transition to a single story on the side that is closest to Sunny Cove Beach. In addition, the proposal is in conformance with General Plan/LCP policy 8.6.6, which protects natural landforms such as bluff tops, in that the development will not alter the natural state of the bluff and the colors and materials proposed will be earth tones that will blend with the natural and existing built environment. Additionally, the development will comply with the minimum of 25-foot geologic setback to provide a stable building site over the 100-year lifetime of the structure as required per General Plan/LCP policy 6.2.12. Furthermore, although the project site is located between the shoreline and the first public road, it is not identified as a priority acquisition site in the County's Local Coastal Program. Consequently, the proposed project will not interfere with public access to the beach, ocean, or other nearby body of water.

Landscaping plan includes a three foot hedge within the front yard setback. In order to maintain a public viewshed, the Urban Designer proposes that the three foot hedge not be extended beyond the proposed vegetable garden and be integrated with the proposed hedge within the eastern yard. A condition of approval has been included that requires that the hedge be revised with the Urban Designers approval.

#### **Design Review**

The proposed residence complies with the requirements of the County Design Review Ordinance, in that the proposed project will be of an appropriate scale and type of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area. The visual simulation (Exhibit I) and elevations were reviewed by the Urban Designer and were found in conformance with the County Design Review Ordinance. The replacement residence will be in the approximately same location as the existing residence and will comply with the required 25-foot geologic setback. The neighborhood consists of single and two story residences, with a large two story residence located immediately to the west. The mass of the proposed home will be visually broken up, and is tailored to the setting, in that the two story element is only on the western side adjacent to existing two story element on neighboring property, and the one story element is on eastern side in order to minimize visual impacts to Sunny Cove beach below.

The replacement home has been articulated in varying wall planes, roof lines, and materials which help break up the scale and bulk. The proposed materials consist of stucco siding, horizontal wood siding, stone veneer, zinc or powder coated metal roofing, wood "IPE" fencing and garage doors in earth tone colors that will blend and harmonize with the existing natural and built environment.

Overall, the design is relatively modest, respectful of the setting and is well suited to the prominent location.

### **Conclusion**

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

### **Staff Recommendation**

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number **09-0020**, based on the attached findings and conditions.

**Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.**

**The County Code and General Plan, as well as hearing agendas and additional information are available online at: [www.co.santa-cruz.ca.us](http://www.co.santa-cruz.ca.us)**

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## **Coastal Development Permit Findings**

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made, in that the property is zoned R-1-6 (Residential (6,000 square foot minimum)), a designation which allows residential uses. The proposed residence is a principal permitted use within the zone district, consistent with the site's (R-UL) Urban Low Residential General Plan designation.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that the proposal does not conflict with any existing easement or development restriction such as public access, utility, or open space easements in that no such easements or restrictions are known to encumber the project site.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

This finding can be made, in that the development is consistent with the design criteria in terms of design of the structure by stepping down from two stories to one story near the beach which will minimize visual impact on Sunny Cove beach below. In addition, the proposed replacement dwelling will use earth tone materials and finishes which harmonize with the natural character of the area and existing homes of similar colors. The proposed landscaping has been conditioned to revise the proposed three foot hedge with the Urban Designer's approval in order to maintain the public viewshed beyond the proposed vegetable garden. Further, the replacement home will be consistent in minimizing site disturbance as minimal grading is proposed for the installation of new building slabs and driveway and no alteration of the coastal bluff is proposed, aside from replacing existing fencing.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made, in that the project, though located between the shoreline and the first public road, is located at the top of a coastal bluff where no access exists. Consequently, the residence will not interfere with public access to the beach, ocean, or any nearby body of water. Further, the project site is not identified as a priority acquisition site in the County Local Coastal Program. Access to Sunny Cove beach below can be obtained via Johans Beach Drive, nearby.

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that the structure is sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Additionally, residential uses are allowed uses in the R-1-6 (Residential (6,000 square foot minimum)) zone district of the area, as well as the General Plan and Local Coastal Program land use designation. Developed parcels in the area contain single family dwellings. Size and architectural styles vary widely in the area as the neighborhood is in a transitional phase where one-story homes are being constructed into two stories. In addition, two homes immediately adjacent to the property are newer two story homes. The proposed home will be two stories immediately adjacent to the neighboring property and will transition to a single story on the side that is closest to Sunny Cove Beach. In addition, the proposal is in conformance with General Plan/LCP policy 8.6.6, which protects natural landforms such as bluff tops, in that the development will not alter the natural state of the bluff and the colors and materials proposed will be earth tones that will blend with the natural and existing built environment. Additionally, the development will comply with the minimum of 25-foot geologic setback to provide a stable building site over the 100-year lifetime of the structure as required per General Plan/LCP policy 6.2.12.

### **Residential Development Permit Findings**

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the project is located in an area designated for residential uses. The development is set back 25 feet from the edge of the coastal bluff, the only physical constraint to development. Construction will comply with prevailing building technology, the California Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed residence will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure meets all current setbacks that ensure access to light, air, and open space in the neighborhood.

This finding can be made, in that the location of the four foot high fence along the edge of the coastal bluff on the eastern portion of the property will allow adequate sight distance for vehicles to turn on to and off of Geoffroy Drive in a safe manner, in that the design of the fence meets County design criteria related to street intersection sight distance and is not located adjacent to the driveway.

The location of the fence on the property and the design of the fence does not contain any corners or pockets that would conceal persons with criminal intent.

The design of the fence will not utilize an excessive quantity of materials or energy in its construction or maintenance, in that the fence is a relatively insignificant structure that is accessory to the residential use allowed on the property.

The design and location of the fence will not adversely impact the available light or the movement of air to properties or improvements in the vicinity, in that the fence is four feet high, which does not exceed the six foot height limit that would be allowed without a further discretionary approval or a building permit, and will be of an open design.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the location of the proposed fence and the conditions under which it would be operated or maintained will be consistent with the purpose of the R-1-6(single family dwelling-6, 000 square foot minimum) zone district in that the primary use of the property will be residential, and a fence is a normal ancillary use in the zone district. Specific regulations for fencing and walls are contained in section 13.10.525. This proposal complies with the requirements and intents of that section, in that:

- The fence will be situated on the property in a manner that allows adequate sight distance for vehicles traveling along the roadway as well as entering and exiting the property, in that the fence is set back from the traveled roadway and the applicant has designed the fence to meet County design criteria related to street intersection sight distance.
  - The fence will be set back from the street and allow adequate light and air to pass through to the street area.
  - The location of the fence on the property and the design of the fence does not contain any corners or pockets that would conceal persons with criminal intent.
  - The location and design of the fence will be compatible with the visual neighborhood character of the surrounding neighborhood in which other fences greater than three feet in height front along the roadside.
3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed residential use is consistent with the use and density requirements specified for the Urban Low Residential (R-UL) land use designation in the County General Plan.

The proposed residence will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets all current site and development standards for the zone district as specified in Policy 8.1.3 (Residential Site and Development



Standards Ordinance), in that the residence will not adversely shade adjacent properties, and will meet current setbacks for the zone district that ensure access to light, air, and open space in the neighborhood.

The proposed residence will not be improperly proportioned to the parcel size or the character of the neighborhood as specified in General Plan Policy 8.6.1 (Maintaining a Relationship Between Structure and Parcel Sizes), in that the proposed residence will comply with the site standards for the R-1-6 zone district (including setbacks, lot coverage, floor area ratio, height, and number of stories) and will result in a structure consistent with a design that could be approved on any similarly sized lot in the vicinity. In addition, the Board of Supervisors will adopt changes to the net site area that would reduce area that is used to determine lot coverage and floor area ratio. These changes have been already reviewed by the Coastal Commission and are pending final approval on consent by the Coastal Commission after adoption by the County Board of Supervisors. However, should the changes become in effective prior to building permit issuance, the proposal will continue to comply with floor area ratio and lot coverage with reduced net site area.

A specific plan has not been adopted for this portion of the County.

This finding can be made, in that the proposed fence is set back from the road and allows adequate sight distance consistent with road standards specified in the General Plan. The project is located in the R-UL (Residential Urban Low) land use designation.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the proposed residence is a replacement. Therefore, there is no expected increase in level of traffic generated by the proposed project as it is anticipated to continue to be one peak trip per day, and will not adversely impact existing roads and intersections in the surrounding area.

This finding can be made, in that the proposed fence will not utilize a significant amount of electricity or utilities and will not generate any additional traffic on the streets in the vicinity, in that there are no associated electrical lights or gate motors and therefore do not create a significant draw on electrical utilities, and a fence is not a use that generates or intensifies traffic.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed structure is located in a mixed neighborhood containing a variety of architectural styles, and the proposed residence is consistent with the land use intensity and density of the neighborhood of one single dwelling per parcel. The neighborhood is in transition, where one-story homes are being constructed into two story homes, such as the subject property. Two newer homes located immediately adjacent are two stories. The proposed home will be two stories immediately adjacent to the neighboring property and will

transition to a single story on the side that is closest to Sunny Cove Beach. The proposed materials, which include wood and stucco in natural, subdued earth tone colors are consistent with the neighboring properties and will be compatible with the natural environment.

This finding can be made, in that the proposed fence will be compatible with the visual character of the neighborhood due to its height, design, and location. The open design and colors will be natural or muted tones that are typically used on fences. The proposed fence does not alter or increase the density or intensity of residential use within the surrounding neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed residence will be of an appropriate scale and type of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area. The replacement residence will be in the approximately same location as the existing residence and will comply with the required 25-foot geologic setback. The neighborhood consists of single and two story residences, with a two-story residence located immediately to the west. The replacement home will be broken up by placing the two story element on the western side adjacent to existing two story element on neighboring property and the one story element on eastern side that will help minimize any visual impacts to Sunny Cove beach below.

The replacement home has been articulated in varying wall planes, roof lines, and materials which help break up the scale and bulk. The proposed materials consist of stucco siding, horizontal wood siding, stone veneer, zinc or powder coated metal roofing, wood "IPE" fencing and garage doors in earth tone colors that will blend and harmonize with the existing natural and built environment.

## Conditions of Approval

Exhibit A: Project plans, five sheets, prepared by Stephanie Barnes-Castro dated 3/2/09.  
Landscape plans, two sheets, prepared by Bernand Trainor & Associates, dated 3/2/09.  
Civil Engineer plans, six sheets, prepared by Luke Beautz, dated January 2009.

- I. This permit authorizes the construction of a two story residence. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:
  - A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.
  - B. Obtain a Demolition Permit from the Santa Cruz County Building Official. Comply with all requirements of the Monterey Bay Unified Air Pollution Control District.
  - C. Obtain a Building Permit from the Santa Cruz County Building Official.
    1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.
  - D. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.
- II. Prior to issuance of a Building Permit the applicant/owner shall:
  - A. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).
  - B. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:
    1. One elevation shall indicate materials and colors as they were approved by this Discretionary Application.

2. Civil Engineered grading, drainage, and erosion control plans.
3. The building plans must include a roof plan. Maximum height is 28-feet.
4. Show the 25-foot geologic setback on cross-sections.
5. Relabel the following rooms:
  - a. Office to Living Room
  - b. Media Room to Bedroom
  - c. Exercise Room to Bedroom
6. Remove the portion of the four-foot fence that is proposed within the Geoffroy Drive right of way.
7. All materials including roofing, windows and metal shall be non-reflective.
8. Elevations and locations of all proposed fencing (including any free-standing landscape walls) shall be provided.
  - (i) Fencing (including free-standing landscape walls) within the rear yard (and coastal bluff setback area) are limited to low height, low visibility, open fencing. Fencing shall not exceed 4 feet in height and shall be constructed of open pickets, metal, wire mesh, or cable materials. Free standing landscape walls are not allowed within the rear yard (and coastal bluff setback area). Fence colors shall be selected to reduce visibility of the fence materials.
  - (ii) The design, location, height, colors, and materials of the proposed fencing shall be subject to Planning Department review and approval.
9. Elevations and locations of all proposed outdoor improvements (including but not limited to: decks, walkways, patios, hardscape, pools, hot tubs, arbors, trellises, shade structures, barbecues, planters, and retaining walls.) shall be provided.
  - (i) The design, location, height, colors, and materials of the proposed outdoor improvements shall be subject to Planning Department review and approval.
  - (ii) All decks shall be under 30 inches in height within the required geologic setback (25 feet or 100 year stability, whichever is the greater distance), shall comply with the requirements of the Geologic Hazards ordinance, and any deck in excess of 18 inches in height shall meet the required yard setbacks.
  - (iii) No structures are allowed within the required geologic setback (25 feet or

100 year stability, whichever is the greater distance).

10. Revise the three foot hedge within the front yard to stop at the vegetable garden. The revisions shall be approved by the Urban Designer.
  - C. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.
  - D. Meet all requirements of and pay Zone 5 drainage fees to the County Department of Public Works, Drainage. Drainage fees will be assessed on the net increase in impervious area.
  - E. Meet all requirements and pay any applicable plan check fee of the Central Fire Protection District.
  - F. Pay the current fees for Parks and Child Care mitigation for two bedroom(s). Currently, these fees are, respectively, \$1,000 and \$109 per bedroom.
  - G. Pay the current fees for Roadside and Transportation improvements for two bedroom(s). Currently, these fees are, respectively, \$847 and \$847 per bedroom.
  - H. Provide required off-street parking for four cars. Parking spaces must be 8.5 feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan.
  - I. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district.
  - J. Complete and record a Declaration of Geologic Hazards. **You may not alter the wording of this declaration.** Follow the instructions to record and return the form to the Planning Department.
- III. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:
- A. All site improvements shown on the final approved Building Permit plans shall be installed.
  - B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
  - C. The project must comply with all recommendations of the approved Geotechnical Investigation and Engineering Geology reports.

- D. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.100, shall be observed.

IV. Operational Conditions

- A. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

- V. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.

- A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.

- B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:

1. COUNTY bears its own attorney's fees and costs; and
2. COUNTY defends the action in good faith.

- C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

- D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor(s) in interest, transferee(s), and assign(s) of the applicant.

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Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

**Please note: This permit expires three years from the effective date listed below unless a building permit (or permits) is obtained for the primary structure described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.**

Approval Date: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

\_\_\_\_\_  
Don Bussey  
Deputy Zoning Administrator

\_\_\_\_\_  
Porcila Perez Wilson  
Project Planner

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Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

# CALIFORNIA ENVIRONMENTAL QUALITY ACT

## NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 09-0020  
Assessor Parcel Number: 028-212-10  
Project Location: 250 Geoffroy Drive

**Project Description:** Proposal to demolish existing single family dwelling and construct a two story, five bedroom, four bath single family dwelling with an attached two car garage.

**Person or Agency Proposing Project:** Dee Murray

**Contact Phone Number:** 831-475-5334

- A. \_\_\_\_\_ The proposed activity is not a project under CEQA Guidelines Section 15378.  
B. \_\_\_\_\_ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).  
C. \_\_\_\_\_ Ministerial Project involving only the use of fixed standards or objective measurements without personal judgment.  
D. \_\_\_\_\_ Statutory Exemption other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E.  X  Categorical Exemption

Specify type: Class 1 - Existing Facilities (Section 15301)

**F. Reasons why the project is exempt:**

The demolition and reconstruction of one single family dwelling.

In addition, none of the conditions described in Section 15300.2 apply to this project.

\_\_\_\_\_  
Porcila Perez, Project Planner

Date: \_\_\_\_\_



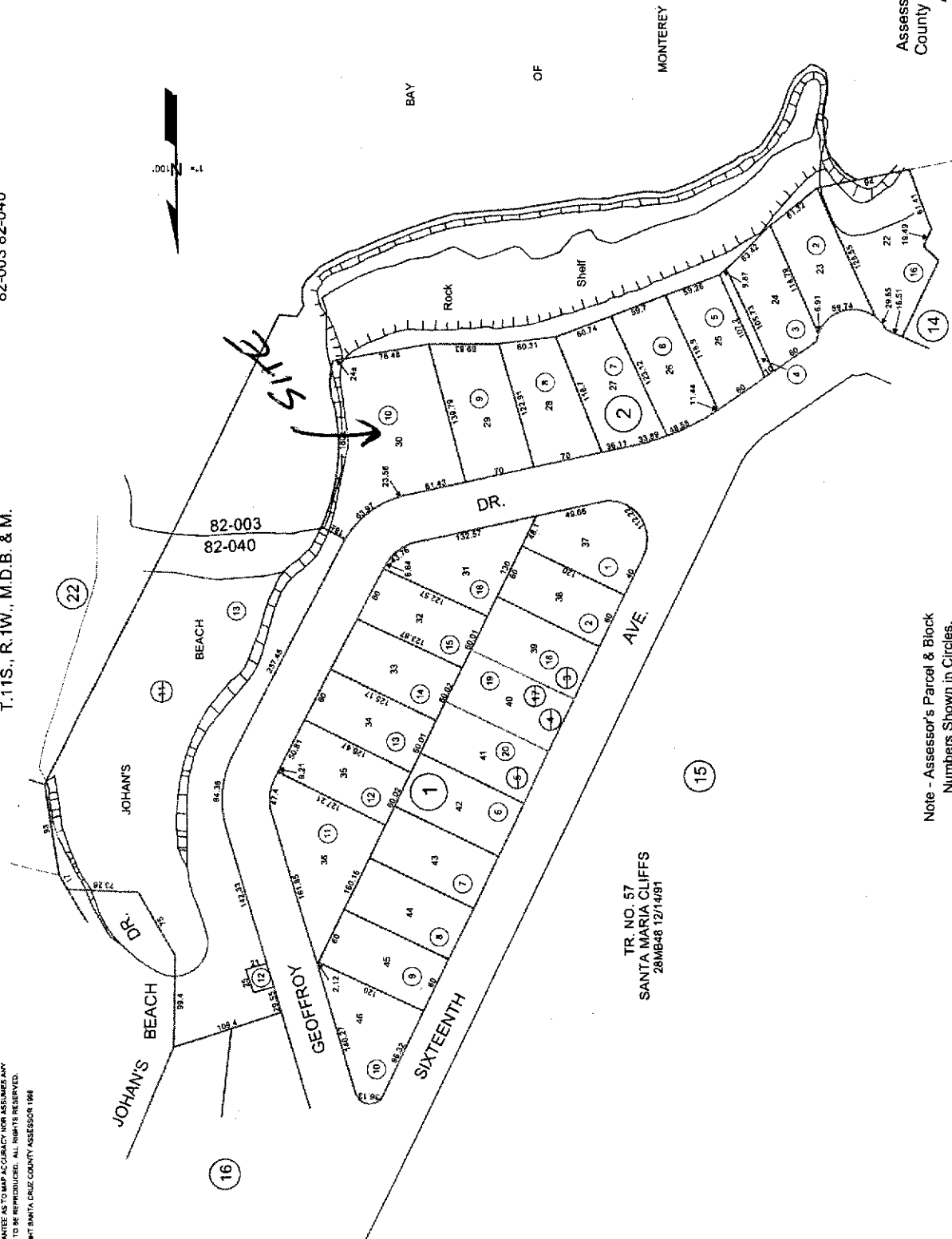
FOR TAX PURPOSES ONLY

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POR. N. 1/2 SEC. 20,  
T.11S., R.1W., M.D.B. & M.

Tax Area Code  
82-003 82-040

28-21



Assessor's Map No. 28-21  
County of Santa Cruz, Calif.  
August, 1998

Note - Assessor's Parcel & Block  
Numbers Shown in Circles.

TR. NO. 57  
SANTA MARIA CLIFFS  
28MB48 12/14/91




Electronically drawn 8/27/98 RW  
RAY 8/27/98 (P.O. to 30, 141)  
RAY 8/23/04 CB (L-0034810 to 12, Sp 1-18 to 20)

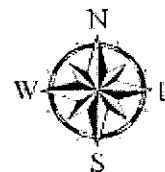


# Location Map



## LEGEND

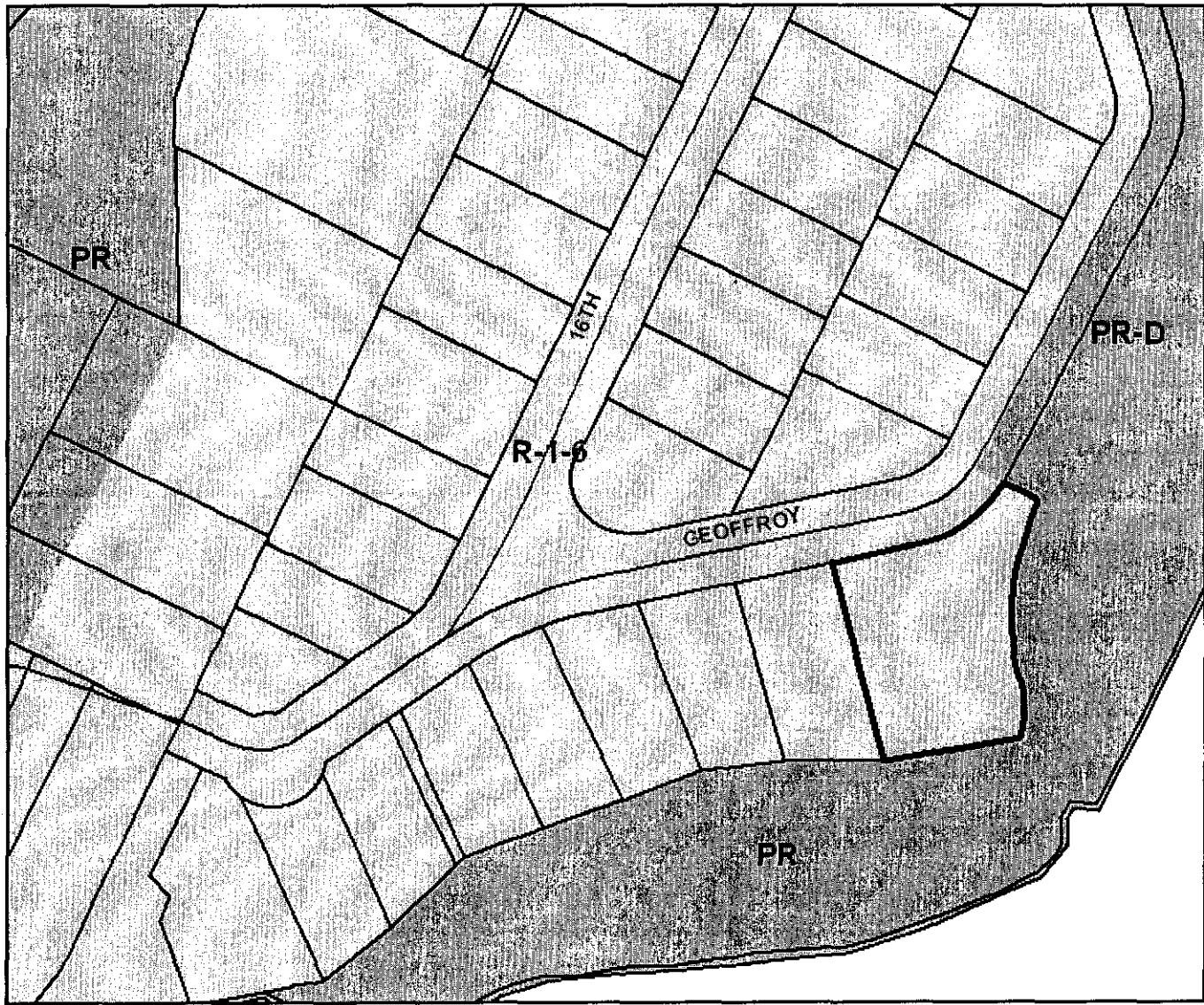
-  APN: 028-212-10
-  Assessors Parcels
-  Streets
-  County Boundary



Map Created by  
County of Santa Cruz  
Planning Department  
February 2009



# Zoning Map



## LEGEND



APN: 028-212-10



Assessors Parcels



Streets



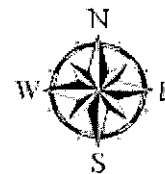
County Boundary



RESIDENTIAL-SINGLE FAMILY



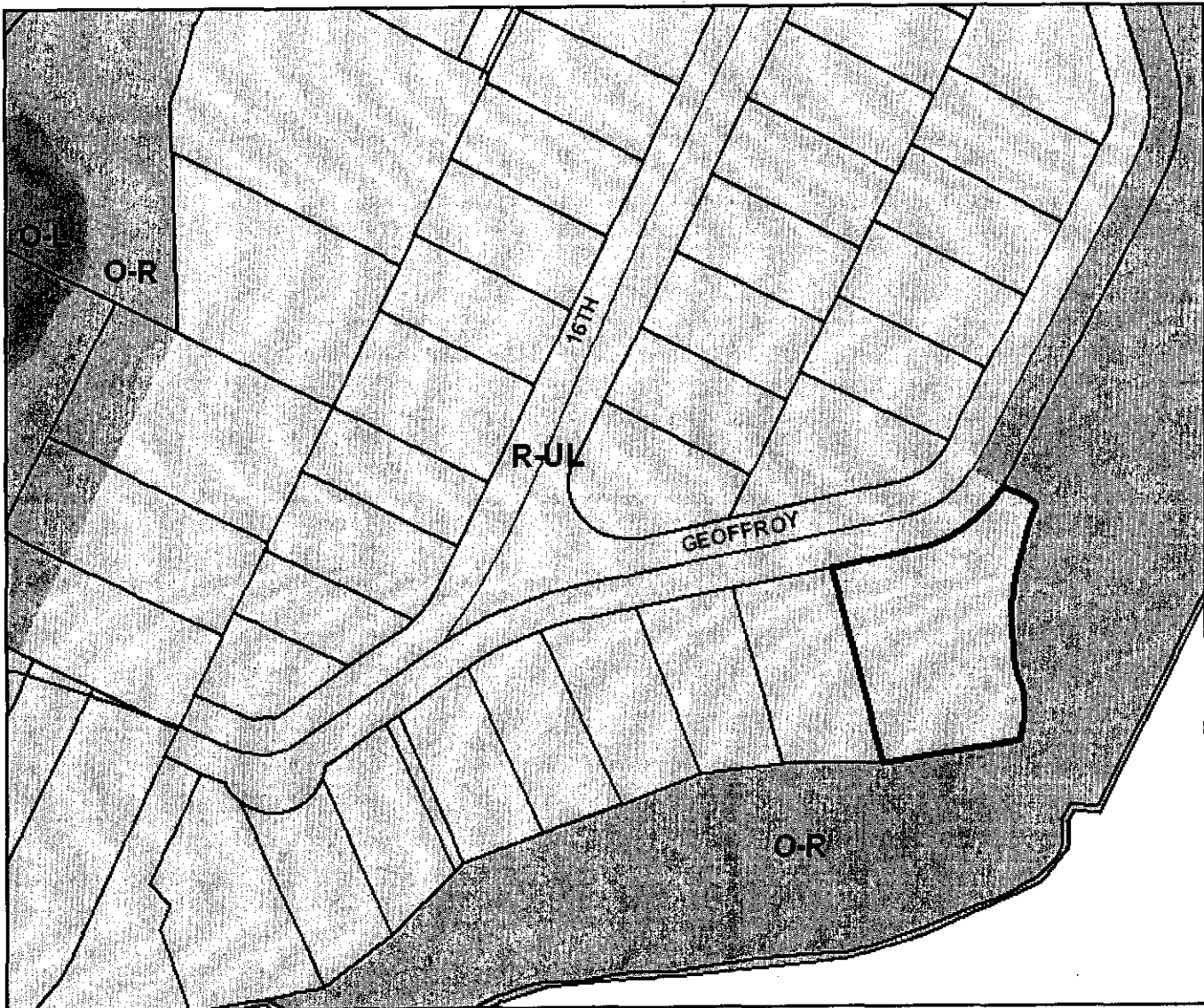
PARK



Map Created by  
County of Santa Cruz  
Planning Department  
February 2009

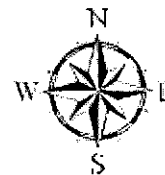


# General Plan Designation Map



## LEGEND

- APN: 028-212-10
- Assessors Parcels
- Streets
- County Boundary
- Residential - Urban LowDensity
- Parks and Recreation
- Lake



Map Created by  
County of Santa Cruz  
Planning Department  
February 2009



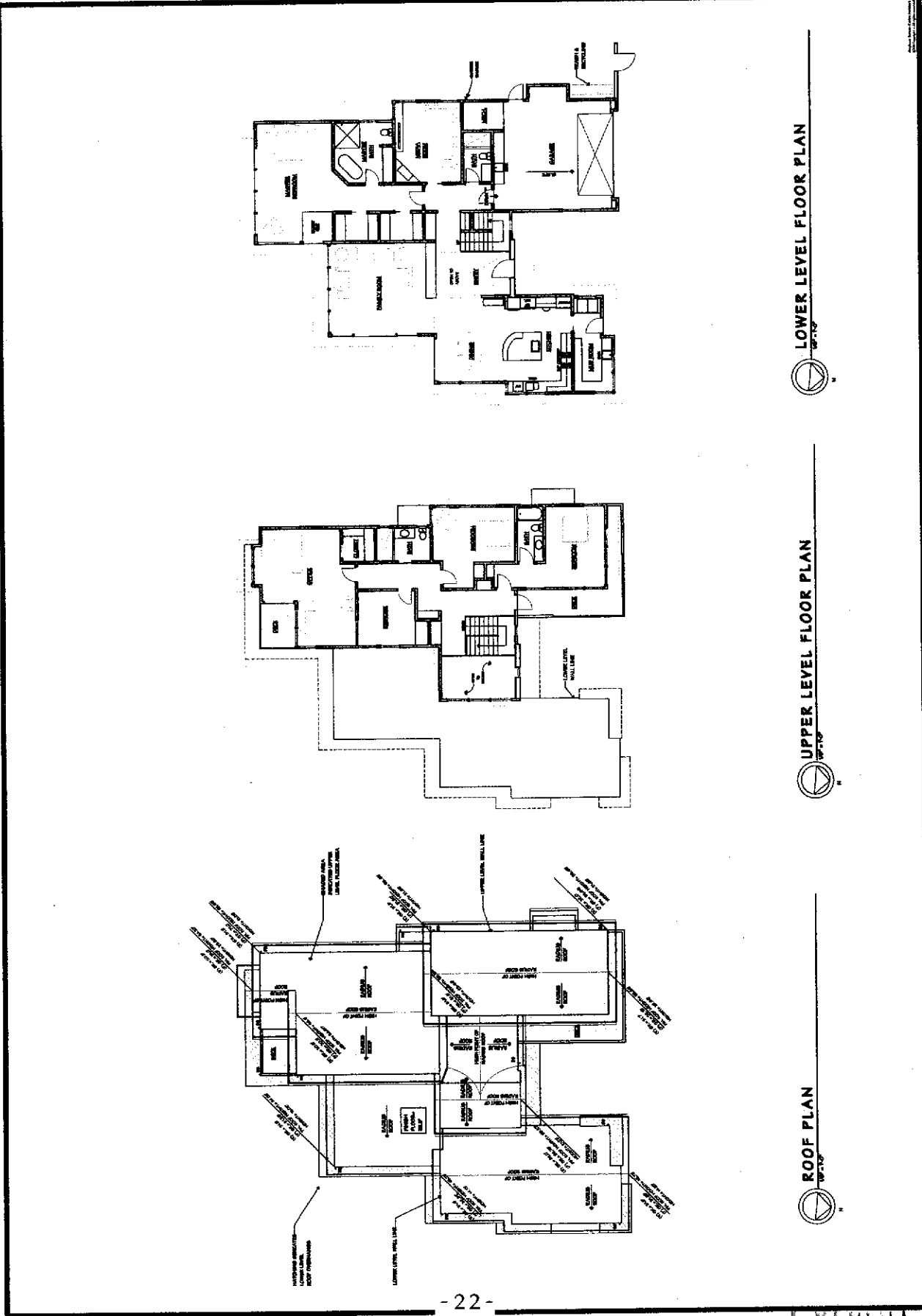


STEPHANIE  
BARNES-CASTRO  
ARCHITECT  
1000 16th Street, Suite 1000  
San Francisco, CA 94103  
Tel: 415.774.2500  
Fax: 415.774.2501  
www.stephaniebarnes.com

FLOOR PLAN &  
ROOF PLAN

COLLIGAN RESIDENCE  
220 GEOFROY DRIVE  
SANTA CRUZ, CA 95062  
APR 10, 2012 02-212-10

DATE	10/10/12
BY	STEPHANIE BARNES-CASTRO
SCALE	1/8" = 1'-0"
A2	



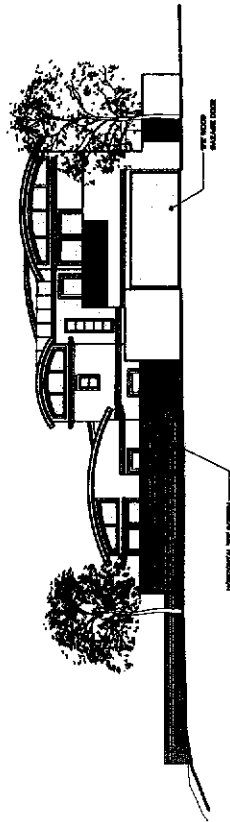


ARCHITECT  
STEPHANIE  
BARNES-CASTRO  
1000 Avenue of the Stars, Suite 200  
Beverly Hills, CA 90210  
Tel: (310) 274-1100  
Fax: (310) 274-1101  
www.stephaniebarnes.com

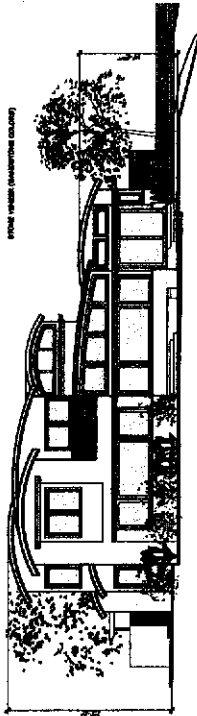
EXTERIOR  
ELEVATIONS

COLLIAN RESIDENCE  
250 GEOFFROY DRIVE  
SANTA CRUZ, CA 95062  
APN: 028-212-10

DATE: 10/1/07  
BY: [Signature]  
CHECKED: [Signature]  
SCALE: 1/8" = 1'-0"  
SHEET: A3

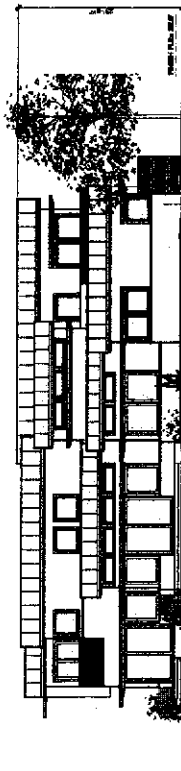


NORTH ELEVATION  
10/1/07

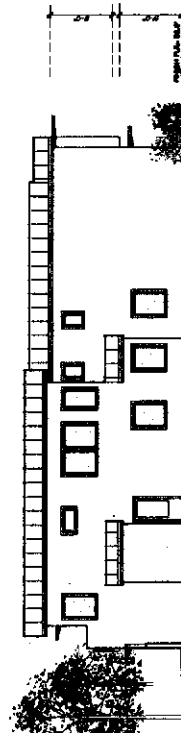


SOUTH ELEVATION  
10/1/07

TYPICAL EXTERIOR MATERIALS  
SIDE ON FINE-TEXTURED STONE, (SANTA CRUZ)  
WOOD SHAKES: PRIMAVERA, WINTERBERRY, COUNTRY  
CLAY TERRAZZO: A SCOTT, PASTEL, COUNTRY  
INTERIOR: WOOD SHAKES (SANTA CRUZ)  
WOOD SHAKES: PRIMAVERA, WINTERBERRY, COUNTRY

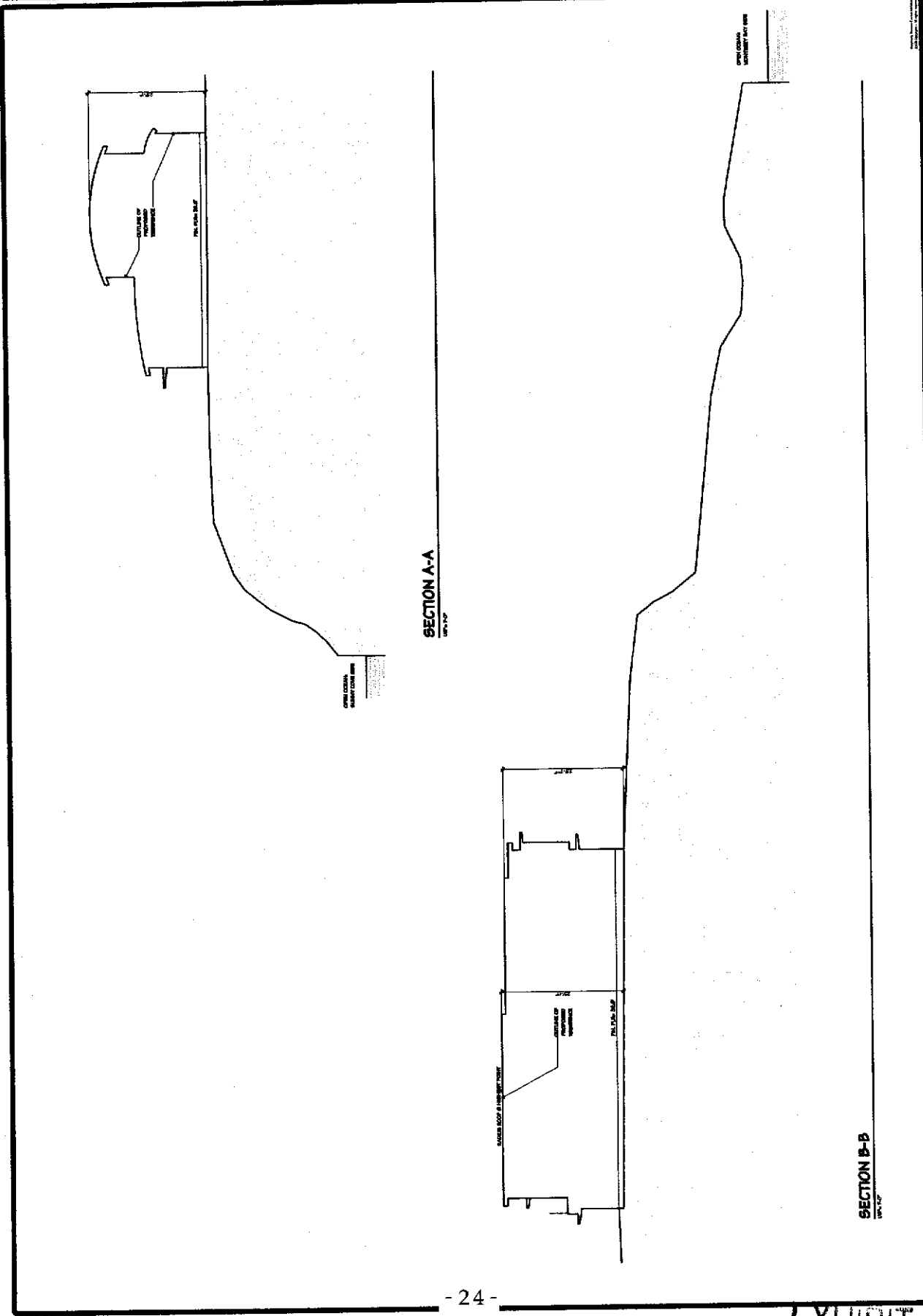


EAST ELEVATION  
10/1/07



WEST ELEVATION  
10/1/07

EXHIBIT





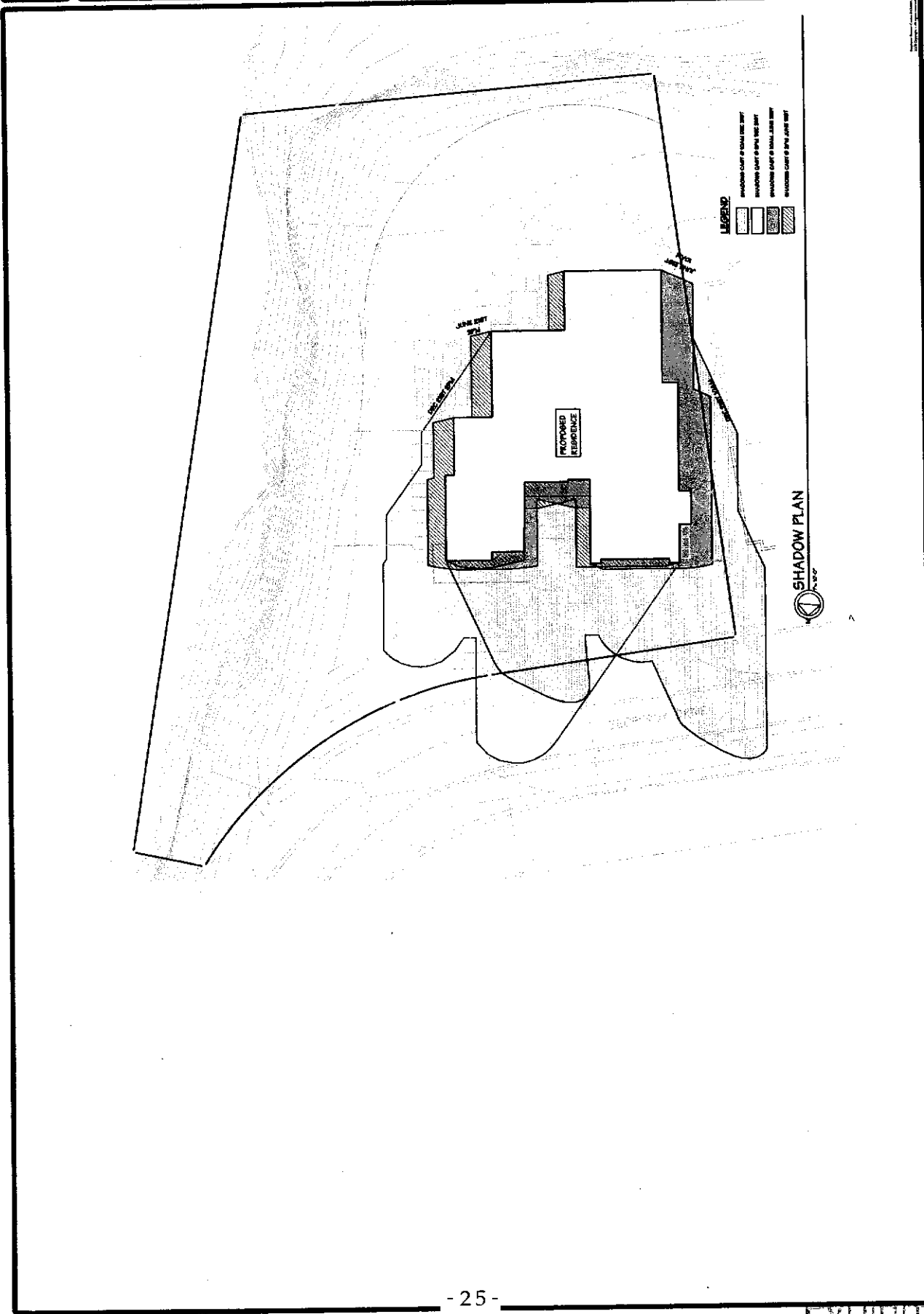


STEPHANIE  
BARNES-CASTRO  
ARCHITECT  
280 GEORFFROY DRIVE  
SANTA CRUZ, CA 95062  
TEL: (408) 298-2121  
FAX: (408) 298-2122  
WWW.SBARCHITECT.COM

SHADOW PLAN

**COLLIGAN RESIDENCE**  
280 GEORFFROY DRIVE  
SANTA CRUZ, CA 95062  
APR 08 09:28:28-10

DATE: 04/08/10  
BY: SB  
SHEET  
**A5**



EXHIBIT



Existing Property Condition

# Grading

- 1. Existing driveway and parking area to be replaced with permeable paving.
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The landscape design for the Colligan residence is directly inspired by the unique coastal environment. The site sensitive approach integrates permeable paving and California Native plant species into the proposed architectural style in concept, form and function. The design connects the architecture to the surrounding coastal environment seamlessly blending the interior and exterior spaces in the timeless way of California outdoor living.

Permeable paving is central to the landscape design and impermeable paving has been minimized to reduce water runoff into the storm system. Coastal California Native plants are the key species of the landscape creating an appropriate, cohesive design in harmony with the coastal environment. Native California and Mediterranean Coastal plant species will be used for bedding and groundcover to minimize irrigation use and add to the applicability of the design. A low-flow irrigation system with an automatic timer will be installed to minimize the use of landscape water.

For grading, drainage and erosion control measures please see plans by Luke Beutiz, C.E., L.S.

Exhibit 100 - 1000



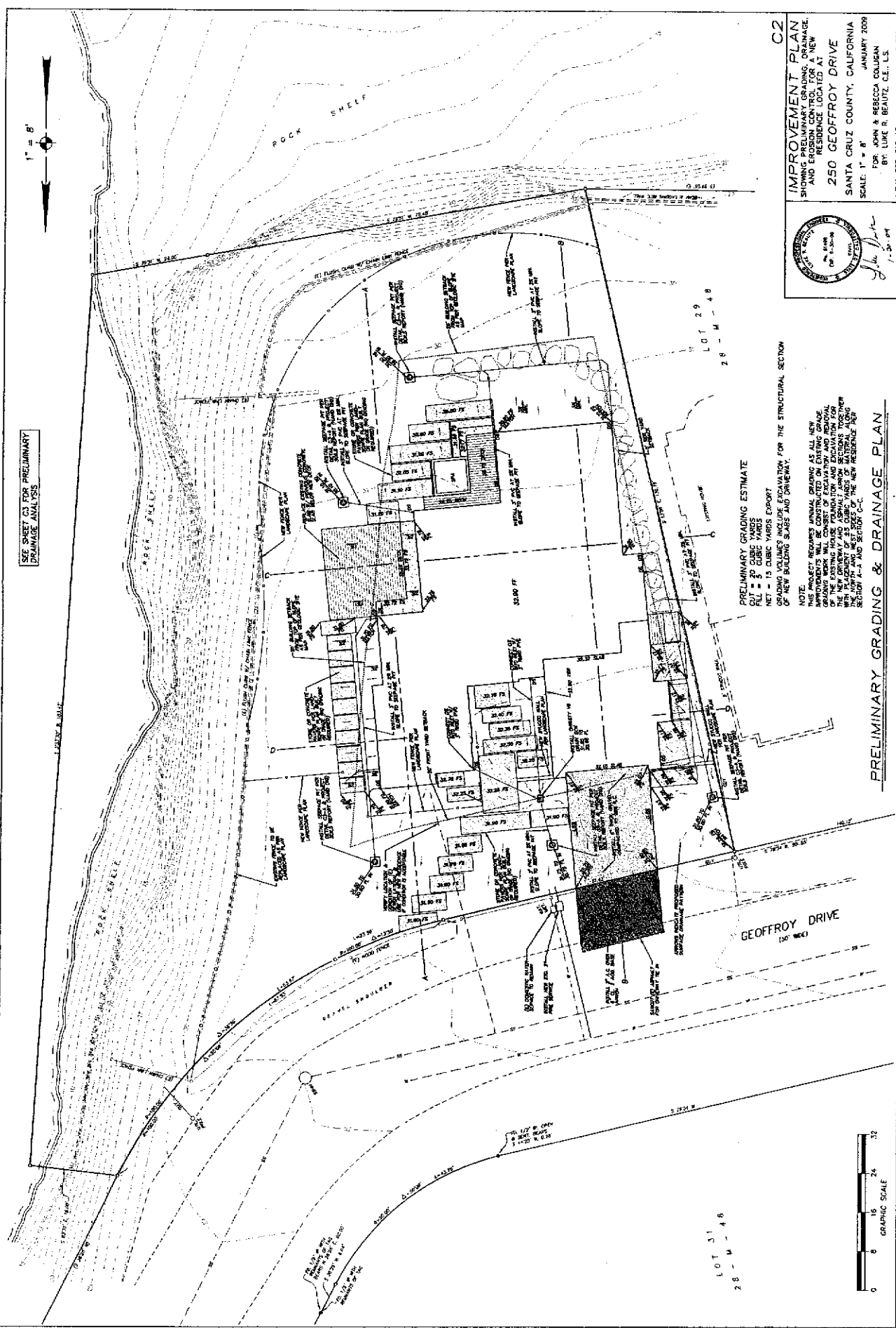
RELAND, YOUNG, ASSOCIATES  
ARCHITECTS  
1000 F STREET, N.W.  
WASHINGTON, D.C. 20004  
TEL: 202-331-1234

1. Building  
2. Site  
3. Program  
4. Section  
5. Elevation  
6. Detail  
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SEE SHEET C3 FOR PRELIMINARY  
DRAINAGE ANALYSIS

1" = 8'



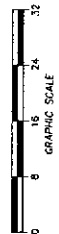
**C2**  
**IMPROVEMENT PLAN**  
SHOWING PRELIMINARY GRADING, DRAINAGE,  
AND EROSION CONTROL FOR A NEW  
RESIDENCE LOCATED AT  
**250 GEOFFROY DRIVE**  
SANTA CRUZ COUNTY, CALIFORNIA  
SCALE: 1" = 8'  
FOR JOHN & BESSICA COLGAN  
BY LIME R. BEUTZ, C.E., L.S.  
A.P.M. 028-712-10  
SHEET C2



**PRELIMINARY GRADING ESTIMATE**  
FILL = 50 CUBIC YARDS  
EXCAVATION = 15 CUBIC YARDS  
NET = 35 CUBIC YARDS EXPORT  
GRADING VOLUMES INCLUDE EXCAVATION FOR THE STRUCTURAL SECTION  
OF NEW BUILDING SLABS AND DRIVEWAY.

**NOTE:**  
THIS PROJECT REQUIRES INITIAL GRADING AS ALL NEW  
CONSTRUCTION. THE GRADING SHALL BE BASED ON THE  
GRADING WORK PLAN, WHICH SHALL BE SUBMITTED FOR  
APPROVAL BY THE LOCAL AGENCIES. THE GRADING SHALL  
BE BASED ON THE GRADING WORK PLAN, WHICH SHALL  
BE SUBMITTED FOR APPROVAL BY THE LOCAL AGENCIES.  
THE GRADING SHALL BE BASED ON THE GRADING WORK  
PLAN, WHICH SHALL BE SUBMITTED FOR APPROVAL BY  
THE LOCAL AGENCIES.

**PRELIMINARY GRADING & DRAINAGE PLAN**



**EXHIBIT**

### GENERAL NOTES

1. All construction shall comply with applicable requirements in the current edition of the Santa Cruz County Design Criteria.
2. No changes in the approved plans shall be made without prior approval by the Santa Cruz County Planning Department.
3. The Director of Planning, or his authorized representative, shall have the authority to stop work if the work is not being done in accordance with the approved improvement plans.
4. The contractor shall notify the Santa Cruz County Planning Department (454-2390 or 454-2077) at least 24 hours prior to the start of construction.

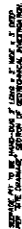
1. All construction shall comply with applicable requirements in the current edition of the Santa Cruz County Design Criteria.
2. No change in the approved plans shall be made without prior approval by the Santa Cruz County Planning Department.
3. The Officer of Planning, or his authorized representative, shall have the authority to stop work if the work is not being done in accordance with the approved Improvement Plans.
4. The contractor shall notify the Santa Cruz County Planning Department (454-2500 or 454-2077) at least 24 hours prior to the start of construction.
5. All drainage inlets are to be precast concrete oblong boxes, model as indicated on plan, or equivalent.
6. All storm drain material to be SDR 35 PVC.
7. The top 6" of aggregate under all surfaces subject to vehicular traffic shall be compacted to 95% relative compaction.
8. All construction shall be in accordance with the recommendations of the Geotechnical Investigation prepared for the site by Haro, Roumanian & Associates, Inc., Project No. SC92923 dated September 2008.
9. All construction shall be in accordance with the recommendations of the Geotechnical Investigation prepared for the site by Haro, Roumanian & Associates, Inc., Project No. SC92923 dated September 2008.
10. All construction shall be in accordance with the recommendations of the Geotechnical Investigation prepared for the site by Haro, Roumanian & Associates, Inc., Project No. SC92923 dated September 2008.

ABBREVIATIONS	
AC	ASPHALT CONCRETE
AGG	AGGREGATE
BC	BOTTOM CURB
BS	BOTTOM SLOPE
(E)	EXISTING
(F)	FINISHED
EG	EXISTING GROUND
FC	FINISHED GRADE
FL	FLOWLINE
FS	FINISHED SURFACE
GR	GRADE
GRK	GRADE BREAK
INP	INVERT
MP	MANHOLE PITCH
PC	PROPOSED COMBINATION
S	SLOPE
SD	STORM DRAIN
TC	TOP OF CURB
TS	TOP OF SIDEWALK
TSW	TOP OF STREET WALL

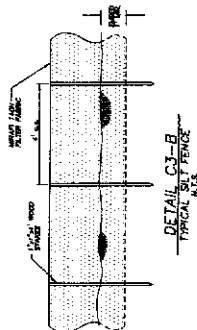
**EROSION CONTROL NOTES**

1. Stockpile disturbed topsoil and redistribute around the finished site as seed base.
2. Disturb only those areas under construction. Do not leave soil unprotected during heavy rain.
3. Re-seed all disturbed areas with permanent landscaping or seed mix as follows:

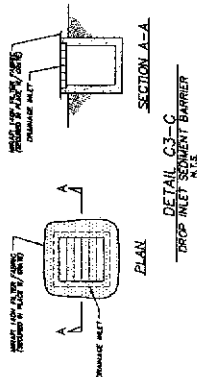
- Blends Brome:  $1/2$  # per 1000 S.F.  
Rye Clover:  $1/3$  # per 1000 S.F.  
Annual Regenera:  $1/4$  # per 1000 S.F.
4. Fertilize seedlings with 16–20–0 ammonium phosphate w/ sulphur.
5. Between October 15 and April 15, exposed soil until be protected with straw, during exposure, such protection may consist of mulching, covering, or other means.
- Before completion of the project, any exposed soil be disturbed since it will be permanently protecting from erosion.



DETAIL C3-A  
TYPICAL SEEPAGE PIT  
N.I.S.



DETAIL C3-B  
TYPICAL SILT FENCE  
M.T.S.



PLAN

SECTION A-A

DETAIL C3-C

DROP INLET SEDIMENT BARRIER

N.T.S.

## NOTES, DETAILS, &amp; PRELIMINARY DRAINAGE ANALYSIS

[illegible][illegible]

TOTAL ADDED IMPROVEMENT AREA = 707.65  
 5 SEPARATE PLOTS TOTAL WITH DIMENSIONS OF  $2' \times 2' \times 2'$  DEEP  
 APPROXIMATE ADDED FRT = 785.85 S.F. = 181.57  
 AND THE LOCAL-AREA SITE BURNING, THE SITE SOL. QTY. IS 142  
 WITH THE LARGER LAYER MAKING A 647, FORMERLY OF 4,000-  
 4,000 (MADE) FOR THE AREA, THE ANNUAL VALUE OF 8,000 LAYER

EQUIVALENT IMPROVEMENT AREA =  $4,000 + (300/2) = 4,750$  S.F.  
 THE CHANGING LEVEL OF THE IMPROVEMENT AREA, IN NET MORTGAGE  
 IN EQUIVALENT IMPROVEMENT AREA OF 707.65

[illegible][illegible]

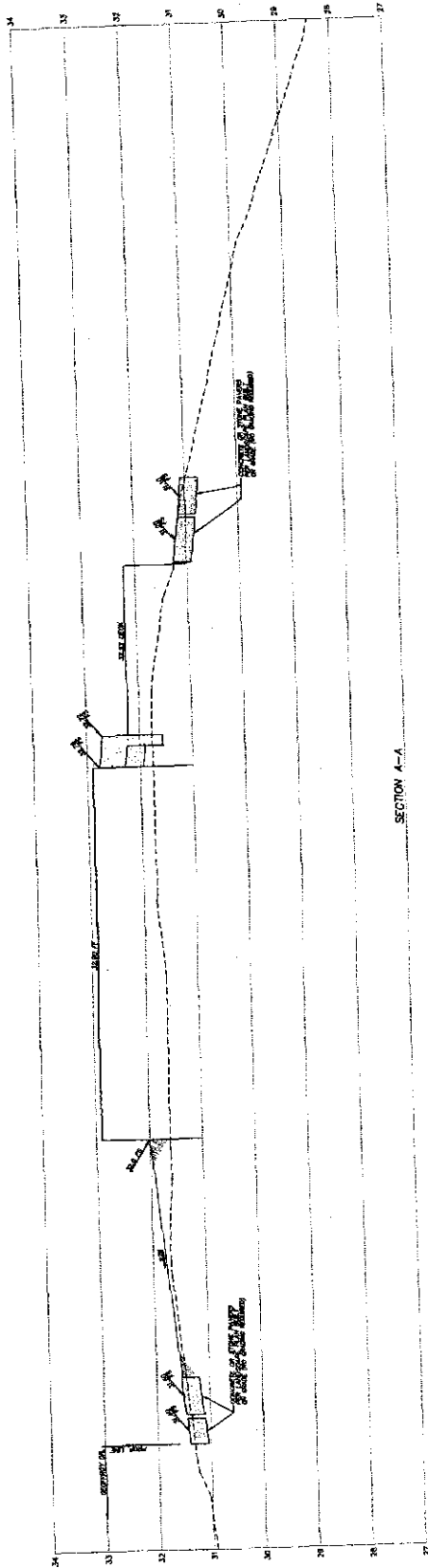
1. *Introduction*

**IMPROVEMENTS IN EROSION CONTROL**  
**250 GEOFFREY STREET, SANTA CRUZ, CALIF.**

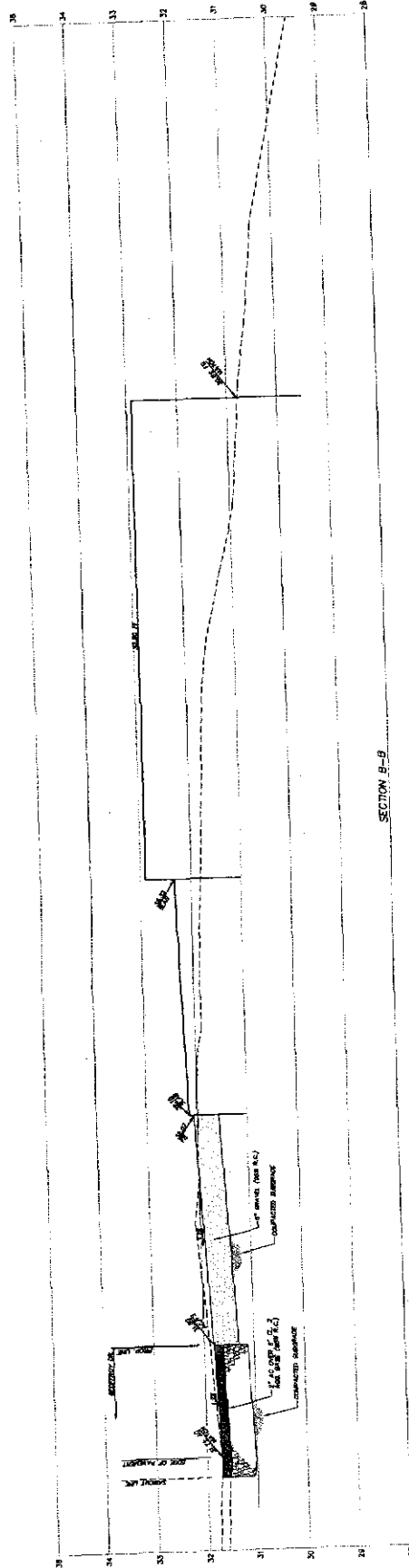
ANALYSIS

C3

**IMPROVEMENT PLAN**  
SHOWING PRELIMINARY GRADING, DRAINAGE,  
AND EROSION CONTROL, FOR A NEW  
RESIDENCE LOCATED AT  
**250 GEOFFROY DRIVE**  
**SANTA CRUZ COUNTY, CALIFORNIA**  
JANUARY 2009  
FOR: JOHN & REBECCA COLLIGAN  
BY: LUKE R. BEAUTZ, C.E., L.S.  
A.P.N. 028-312-10  
SHEET C3



SECTION A-A



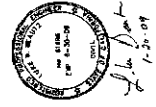
SECTION B-B

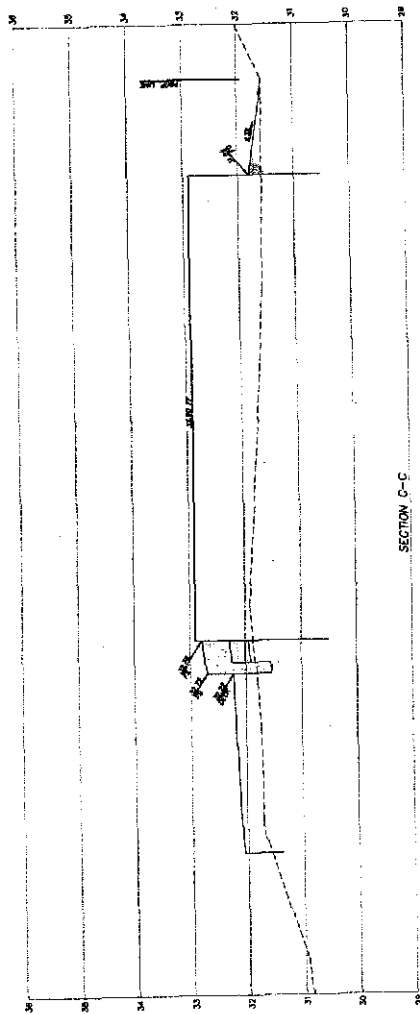
PRELIMINARY SITE CROSS SECTIONS

1" = 1' VERT  
1" = 10' HORIZ

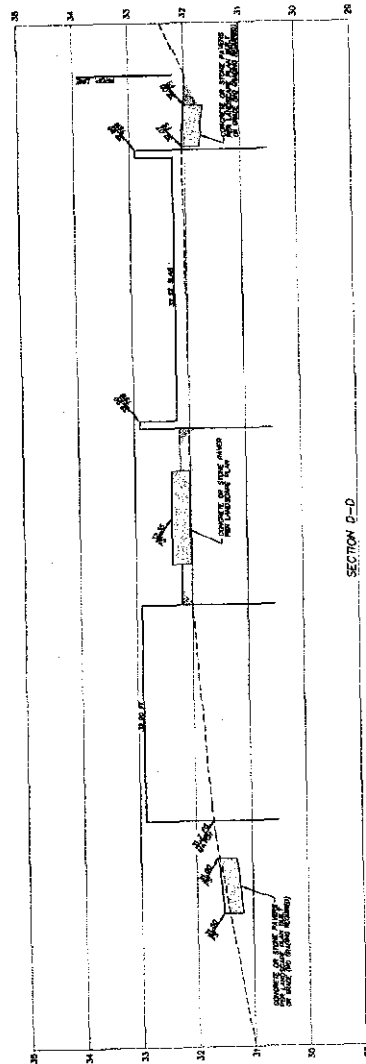
C4

IMPROVEMENT PLAN  
SPRING, PRIMARY GRADING, DRAINAGE,  
AND EROSION CONTROL FOR A NEW  
RESIDENCE LOCATED AT  
250 GEOFFROY DRIVE  
SANTA CRUZ COUNTY, CALIFORNIA  
SCALE: 1" = 5' JANUARY 2008  
FOR: JOHN & REBECCA COLONY  
BY: LUKE H. BEUTEL, C.E., L.S.  
A.P.M. 028-272-10 SHEET 04





SECTION C-C



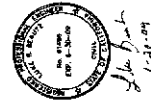
SECTION D-D

PRELIMINARY SITE CROSS SECTIONS

1" = 5' HORIZ  
1" = 1' VERT

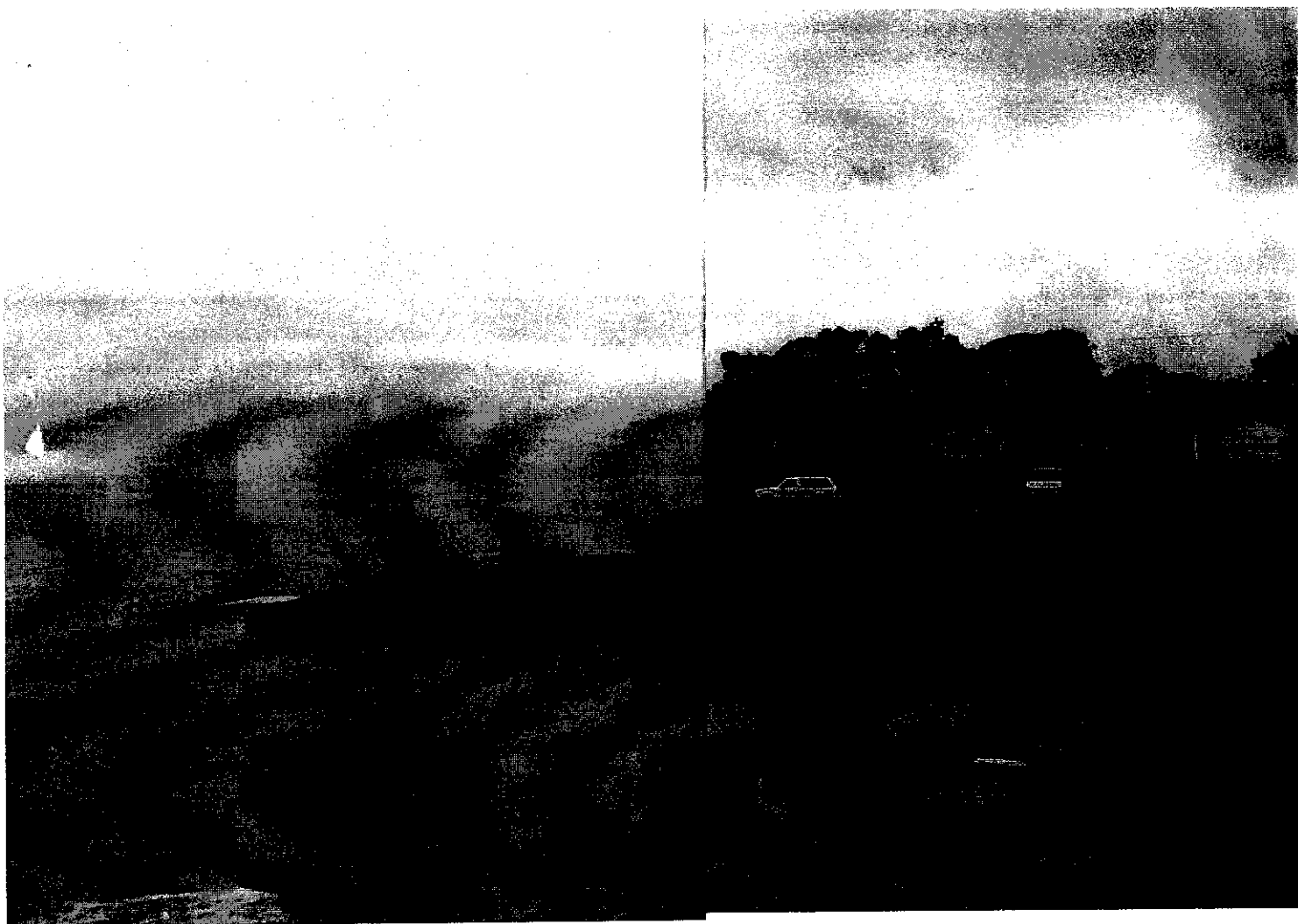
C5

IMPROVEMENT PLAN  
SHOWING PRELIMINARY GRADING, DRAINAGE,  
AND EROSION CONTROL OF NEW  
RESIDENCE LOCATED AT  
250 GEOFFROY DRIVE  
SANTA CRUZ COUNTY, CALIFORNIA  
SCALE 1" = 5'  
FOR JOHN & REBECCA COLLIGAN  
BY LUKE R. BEAULT, C.E., L.S.  
A.P.N. D28-212-10  
JANUARY 2008  
SHEET C5









**C O U N T Y O F S A N T A C R U Z**  
**DISCRETIONARY APPLICATION COMMENTS**

Project Planner: Maria Perez  
Application No.: 09-0020  
APN: 028-212-10

Date: March 6, 2009  
Time: 09:22:52  
Page: 1

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**Environmental Planning Completeness Comments**

===== REVIEW ON FEBRUARY 9, 2009 BY ANTONELLA GENTILE =====

If major changes are made to the project proposal prior to receiving a Coastal Permit, new plan review letters will be required from the soils engineer and the geologist.

**Environmental Planning Miscellaneous Comments**

===== REVIEW ON FEBRUARY 9, 2009 BY ANTONELLA GENTILE =====

Miscellaneous Comments / Conditions of Approval

1. Final plans shall be prepared in accordance with all recommendations of the Geotechnical Investigation by Haro, Kasunich, and Associates, dated September 2008 and the Engineering Geology Report by Nielsen and Associates dated September 2008.
2. This project shall comply with all conditions of the technical report acceptance letter by Joe Hanna, County Geologist and Kent Edler, Senior Civil Engineer, dated 11/7/08.
3. Improvements requiring a Building Permit shall be prohibited within the 25' geologic setback.
4. Indicate whether the clay pipe shown near the southern property line will be removed, abandoned, or incorporated into the site plan.
5. Show the geologic setback on cross-sections.

**Dpw Drainage Completeness Comments**

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

===== REVIEW ON FEBRUARY 11, 2009 BY TRAVIS RIEBER =====

Please deposit an additional \$250.00 to supplement the previously deposited \$315.00 for a total of \$565.00 in review fees for a replacement single family dwelling.

The civil plans dated January 2009 have been received and are approved for the discretionary application stage. See miscellaneous comments for additional information to be provided at the building application stage.

**Dpw Drainage Miscellaneous Comments**

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

===== REVIEW ON FEBRUARY 11, 2009 BY TRAVIS RIEBER =====

1. Please provide a cross section construction detail of the proposed pervious concrete slab and concrete paver walkways.
2. A recorded maintenance agreement will be required for the proposed retention pits. Please contact the County of Santa Cruz Recorder's office for appropriate

Discretionary Comments - Continued

Project Planner: Maria Perez  
Application No.: 09-0020  
APN: 028-212-10

Date: March 6, 2009  
Time: 09:22:52  
Page: 2

recording procedure: The maintenance agreement form can be picked up from the Public Works office or can be found online at: <http://www.dpw.co.santa-cruz.ca.us/Storm%20Water/FigureSWM25.pdf>

3. For fee calculations please provide tabulation of existing impervious areas and new impervious areas resulting from the proposed project. Make clear on the plans by shading or hatching the limits of both the existing and new impervious areas. To receive credit for the existing impervious surfaces please provide documentation such as assessor-s records, survey records, aerial photos or other official records that will help establish and determine the dates they were built.

Note: A drainage fee will be assessed on the net increase in impervious area. Reduced fees are assessed for semi-pervious surfacing to offset costs and encourage more extensive use of these materials.

4. A civil engineer has to inspect the drainage improvements on the parcel and provide public works with a letter confirming that the work was completed per the plans. The civil engineer-s letter shall be specific as to what got inspected whether invert elevations, pipe sizing, the size of the mitigation features and all the relevant design features. Notes of -general conformance to plans- are not sufficient. An as-built plan may be submitted in lieu of the letter. Upon approval of the project a hold will be placed on the permit to be released once a satisfactory letter is received.

Please call the Dept. of Public Works, Storm Water Management Section, from 8:00 am to 12:00 noon if you have questions.

**Dpw Driveway/Encroachment Completeness Comments**

Submittal is complete, however see encroachment comments in misc. comment page.

**Dpw Driveway/Encroachment Miscellaneous Comments**

===== REVIEW ON FEBRUARY 6, 2009 BY KATE SEIFRIED =====

Driveway shown on improvement plans dated January 2009 must conform to County Standard drawing DW-5. Sheet C2. Cross section on sheet C4 must also be revised to reflect current County Standards. Trench repair for fire service must be per County Standard drawing EP-2. Sheet C2

Discretionary permit must be conditioned to obtain an encroachment permit for all improvements/construction within the County Right-of-Way.

**Dpw Road Engineering Completeness Comments**

===== REVIEW ON FEBRUARY 6, 2009 BY ANWARBEG MIRZA =====

A six-foot right of way dedication is required for public utility easement. Please contact the Department of Public Works to obtain an offer of dedication form. The Building Permit application will then be approved with a hold on the application requiring the completion of the 6-foot dedication.

Discr 'onary Comments - Continued

Project Planner: Maria Perez  
Application No.: 09-0020  
APN: 028-212-10

Date: March 6, 2009  
Time: 09:22:52  
Page: 3

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Please call Anwar Mirza at 831 454 2160 for questions.

**Dpw Road Engineering Miscellaneous Comments**

===== REVIEW ON FEBRUARY 6, 2009 BY ANWARBEG MIRZA =====  
NO COMMENT

**Dpw Sanitation Completeness Comments**

===== REVIEW ON FEBRUARY 3, 2009 BY CARMEN M LOCATELLI =====  
Sewer service is currently available.

**Dpw Sanitation Miscellaneous Comments**

===== REVIEW ON FEBRUARY 3, 2009 BY CARMEN M LOCATELLI =====  
Proposed location of on-site sewer lateral(s), clean-out(s), and connection(s) to existing public sewer must be shown on the plot plan of the building permit application.  
Existing lateral(s) must be properly abandoned (including inspection by District) prior to issuance of demolition permit or relocation or disconnection of structure. An abandonment permit for disconnection work must be obtained from the District. Show all existing and proposed plumbing fixtures on floor plans of building application.

## INTEROFFICE MEMO

APPLICATION NO: 09-0020 (second routing)

Date: March 5, 2009

To: Porcila Perez, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: New residence on Geoffroy Drive, Santa Cruz

## COMPLETENESS ITEMS

- none

## COMPLIANCE ISSUES

Design Review Authority

13.20.130 The Coastal Zone Design Criteria are applicable to any development requiring a Coastal Zone Approval.

Design Review Standards

13.20.130 Design criteria for coastal zone developments

Evaluation Criteria	Meets criteria In code ( ✓ )	Does not meet criteria ( ✓ )	Urban Designer's Evaluation
<b>Visual Compatibility</b>			
All new development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas	✓		
<b>Minimum Site Disturbance</b>			
Grading, earth moving, and removal of major vegetation shall be minimized.	✓		
Developers shall be encouraged to maintain all mature trees over 6 inches in diameter except where circumstances require their removal, such as obstruction of the building site, dead or diseased trees, or nuisance species.	✓		
Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be	✓		

retained.			
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<b>Ridgeline Development</b>			
Structures located near ridges shall be sited and designed not to project above the ridgeline or tree canopy at the ridgeline			N/A
Land divisions which would create parcels whose only building site would be exposed on a ridgetop shall not be permitted			N/A
<b>Landscaping</b>			
New or replacement vegetation shall be compatible with surrounding vegetation and shall be suitable to the climate, soil, and ecological characteristics of the area			N/A

<b>Rural Scenic Resources</b>			
<b>Location of development</b>			
Development shall be located, if possible, on parts of the site not visible or least visible from the public view.			N/A
Development shall not block views of the shoreline from scenic road turnouts, rest stops or vista points			N/A
<b>Site Planning</b>			
Development shall be sited and designed to fit the physical setting carefully so that its presence is subordinate to the natural character of the site, maintaining the natural features (streams, major drainage, mature trees, dominant vegetative communities)			N/A
Screening and landscaping suitable to the site shall be used to soften the visual impact of development in the viewshed			N/A
<b>Building design</b>			
Structures shall be designed to fit the topography of the site with minimal cutting, grading, or filling for construction			N/A
Pitched, rather than flat roofs, which are surfaced with non-reflective materials except for solar energy devices shall be encouraged			N/A
Natural materials and colors which blend with the vegetative cover of the site shall be used, or if the structure is			N/A

located in an existing cluster of buildings, colors and materials shall repeat or harmonize with those in the cluster			
<b>Large agricultural structures</b>			
The visual impact of large agricultural structures shall be minimized by locating the structure within or near an existing group of buildings			N/A
The visual impact of large agricultural structures shall be minimized by using materials and colors which blend with the building cluster or the natural vegetative cover of the site (except for greenhouses).			N/A
The visual impact of large agricultural structures shall be minimized by using landscaping to screen or soften the appearance of the structure			N/A
<b>Restoration</b>			
Feasible elimination or mitigation of unsightly, visually disruptive or degrading elements such as junk heaps, unnatural obstructions, grading scars, or structures incompatible with the area shall be included in site development			N/A
The requirement for restoration of visually blighted areas shall be in scale with the size of the proposed project			N/A
<b>Signs</b>			
Materials, scale, location and orientation of signs shall harmonize with surrounding elements			N/A
Directly lighted, brightly colored, rotating, reflective, blinking, flashing or moving signs are prohibited			N/A
Illumination of signs shall be permitted only for state and county directional and informational signs, except in designated commercial and visitor serving zone districts			N/A
In the Highway 1 viewshed, except within the Davenport commercial area, only CALTRANS standard signs and public parks, or parking lot identification signs, shall be permitted to be visible from the highway. These signs shall be of natural unobtrusive materials and colors			N/A
<b>Beach Viewsheds</b>			
Blufftop development and landscaping			N/A



(e.g., decks, patios, structures, trees, shrubs, etc.) in rural areas shall be set back from the bluff edge a sufficient distance to be out of sight from the shoreline, or if infeasible, not visually intrusive			
No new permanent structures on open beaches shall be allowed, except where permitted pursuant to Chapter 16.10 (Geologic Hazards) or Chapter 16.20 (Grading Regulations)			N/A
The design of permitted structures shall minimize visual intrusion, and shall incorporate materials and finishes which harmonize with the character of the area. Natural materials are preferred.	✓		

**Design Review Authority**

13.11.040 Projects requiring design review.

(e) All commercial remodels or new commercial construction.

**Design Review Standards**

13.11.072 Site design.

Evaluation Criteria	Meets criteria in code ( ✓ )	Does not meet criteria ( ✓ )	Urban Designer's Evaluation
<b>Compatible Site Design</b>			
Location and type of access to the site	✓		
Building siting in terms of its location and orientation	✓		
Building bulk, massing and scale	✓		
Parking location and layout	✓		
Relationship to natural site features and environmental influences	✓		
Landscaping		✓	see comments below.
Streetscape relationship		✓	see comments below.
Street design and transit facilities			N/A
Relationship to existing structures	✓		
<b>Natural Site Amenities and Features</b>			
Relate to surrounding topography	✓		
Retention of natural amenities	✓		

Siting and orientation which takes advantage of natural amenities	✓		
Ridgeline protection			N/A
<b>Views</b>			
Protection of public viewshed		✓	<i>The landscape architect may want to provide a more transparent type of screen or use a different shape (curved inward) for the hedge at the street. Maintaining the public viewshed is a high priority on this site and I would recommend that the Project Planner create a condition of approval to satisfy the requirement.</i>
Minimize impact on private views	✓		
<b>Safe and Functional Circulation</b>			
Accessible to the disabled, pedestrians, bicycles and vehicles			N/A
<b>Solar Design and Access</b>			
Reasonable protection for adjacent properties	✓		
Reasonable protection for currently occupied buildings using a solar energy system	✓		
<b>Noise</b>			
Reasonable protection for adjacent properties	✓		

## 13.11.073 Building design.

Evaluation Criteria	Meets criteria In code ( ✓ )	Does not meet criteria ( ✓ )	Urban Designer's Evaluation
<b>Compatible Building Design</b>			
Massing of building form	✓		
Building silhouette	✓		
Spacing between buildings	✓		
Street face setbacks	✓		
Character of architecture	✓		
Building scale	✓		
Proportion and composition of projections and recesses, doors and windows, and other features	✓		

Location and treatment of entryways	✓		
Finish material, texture and color	✓		
<b>Scale</b>			
Scale is addressed on appropriate levels	✓		
Design elements create a sense of human scale and pedestrian interest			N/A
<b>Building Articulation</b>			
Variation in wall plane, roof line, detailing, materials and siting.	✓		
<b>Solar Design</b>			
Building design provides solar access that is reasonably protected for adjacent properties.	✓		
Building walls and major window areas are oriented for passive solar and natural lighting.	✓		

**PERMIT CONDITIONS / ADDITIONAL INFORMATION**

- *see above*



# COUNTY OF SANTA CRUZ

## PLANNING DEPARTMENT

701 OCEAN STREET, 4<sup>TH</sup> FLOOR, SANTA CRUZ, CA 95060  
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123

**TOM BURNS, PLANNING DIRECTOR**

November 7, 2008

Johans Beach Investments LLC  
710 Berkeley Avenue  
Menlo Park, CA 94025

and

Dee Murray  
2272 Kinsley Street  
Santa Cruz, CA 95092

**Subject: Review of Geotechnical Investigation Haro, Kasunich and Associates,  
Dated September, 2008; Project No. SC9723; and Engineering Geology  
Report by Nielsen and Associates, Dated September, 2008; Project No. SCr-  
2014-G,**

**APN: 028-212-10, Application #: 08-0472**

Dear Applicant:

The purpose of this letter is to inform you that the Planning Department has accepted the subject reports and the following items shall be required:

- 1) All construction shall comply with the recommendations of the reports.
- 2) Civil engineered grading, drainage, erosion control, and site plan must be developed for each lot and the access driveway, and for the proposed driveway improvements. These plans must state that the plans are in compliance with the County of Santa Cruz Grading Code.
- 3) Final plans shall reference the reports and include a statement that the project shall conform to the reports' recommendations.
- 4) Prior to the discretionary application being deemed complete, *plan review letters* shall be submitted to Environmental Planning. The authors of the reports shall write the *plan review letters*. The letters shall state that the project plans conform to the report's recommendations.
- 5) Prior to the excavation of the foundations, the project engineer and/or geotechnical engineer must confirm in writing that the foundations are located as shown on the approved plans.
- 6) The Attached Declaration of Geologic Hazards must be recorded before the final of the Building Permit.

(over)

- 7) Please provide an electronic copy of the soils engineering report, wave run up analysis, and engineering geology report in .pdf format. This document may be submitted on compact disk or emailed to [pln829@co.santa-cruz.ca.us](mailto:pln829@co.santa-cruz.ca.us).

After building permit issuance the soils engineer and engineering geologist *must remain involved with the project* during construction. Please review the *Notice to Permits Holders* (attached).


Our acceptance of the reports is limited to the their technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please submit two copies of the reports and updates at the time of building permit application.

Please call the undersigned at (831) 454-3175 or email at [pln829@co.santa-cruz.ca.us](mailto:pln829@co.santa-cruz.ca.us) if we can be of any further assistance.

Sincerely,

  
Joe Hanna CEG  
County Geologist

  
Kent Edler PE  
Senior Civil Engineer

Cc: Nielsen and Associates  
Haro, Kasunich and Associates

**NOTICE TO PERMIT HOLDERS WHEN A SOILS ENGINEERING AND ENGINEERING  
GEOLOGY REPORTS HAVE BEEN PREPARED, REVIEWED AND ACCEPTED FOR THE  
PROJECT**

After issuance of the building permit, the County requires your soils engineer and engineering geology to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. **When a project has engineered fills and / or grading,** a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.
2. **Prior to placing concrete for foundations,** a letter from the soils engineer and engineering geologist must be submitted to the building inspector and to Environmental Planning stating that they have observed the foundation excavation and that the excavations meets the recommendations of the reports.
3. **At the completion of construction,** *final letters* from your soils engineer and engineering geologist must be submitted to Environmental Planning that summarizes the observations and the tests the consultants have made during construction. The final letters must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our geotechnical recommendations."

If the *final letters* identify any items of work remaining to be completed or that any portions of the project were not observed by the soils engineer and the engineering geologist, you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.

**Review of the Geotechnical Engineering**

Appl # 07-0382

4/7



**County of Santa Cruz**

**PLANNING DEPARTMENT**

701 OCEAN STREET, 4<sup>TH</sup> FLOOR, SANTA CRUZ, CA 95060  
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123  
TOM BURNS, PLANNING DIRECTOR

---

**STEPS FOR COMPLETING THE ENCLOSED DECLARATION OF  
GEOLOGIC HAZARDS**

Read the following instructions and carry out all steps. Do not make any alterations to the form, except as allowed by #2 below. FAILURE TO FOLLOW THE INSTRUCTIONS OR ALTERATIONS TO THE FORM WILL RESULT IN A DELAY IN THE ISSUANCE OF YOUR PERMIT.

Read the entire Declaration.

- 1 Check the information filled in by County staff (ownership, Assessor's Parcel Number, recordation dates, volume and page number and address). IF THERE ARE OMISSIONS, FILL IN THE BLANKS. The information can be found on the recorded deed or in the County Recorder's Office. If you feel there are any other errors, contact Environmental Planning staff for instructions. The form is a formal document and shall not be altered as above. Any unauthorized change(s) will result in an additional delay in processing your permit.
- 2 Have all owner(s) signatures acknowledged by a notary public. An acknowledgement is a form obtained from the notary verifying that the signatory is the person stated on the Declaration.
- 3 Take, do not mail, the form and recording fee to:

Office of the County Recorder  
County Government Center  
701 Ocean Street, Room 230  
831) 454-2800

- 4 Bring or send a copy of the recorded document to:

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County of Santa Cruz  
Planning Department  
701 Ocean Street, 4<sup>th</sup> Floor  
Santa Cruz, Ca. 95060

**YOUR PERMIT CANNOT BE APPROVED UNTIL THE ABOVE STEPS ARE COMPLETED.**  
Please call Joe Hanna at 831-454-3175 if you have any questions regarding this form.

Return recorded form to:  
Planning Department  
County of Santa Cruz  
701 Ocean Street, 4<sup>th</sup> Floor

Attention: Joe Hanna  
County Geologist  
831-454-3175

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## Notice

THIS PAGE ADDED TO PROVIDE ADEQUATE SPACE FOR RECORDING INFORMATION (CALIFORNIA GOVERNMENT CODE §27361.6)



RECORDED AT REQUEST OF:  
County of Santa Cruz

WHEN RECORDED MAIL TO:

Santa Cruz County Planning  
701 Ocean St.  
Santa Cruz, CA 95060

(Space above this line for Recorder's use only)

Note to County Recorder:

Please return to the staff geologist in the Planning Department when completed.

**DECLARATION REGARDING THE ISSUANCE OF A DEVELOPMENT PERMIT  
IN AN AREA SUBJECT TO GEOLOGIC HAZARDS**

The undersigned \_\_\_\_\_  
(names of property owners) (does) (do) hereby certify to be the owner(s) of the real property located in the County of Santa Cruz, State of California, commonly known as

\_\_\_\_\_ (Street address); legally described in that certain deed recorded in Document Number \_\_\_\_\_ of the official records of the Santa Cruz County Recorder on \_\_\_\_\_ (deed recordation date); Assessor's Parcel Numbers 028-212-10.

And, acknowledge that records and reports, filed with the Santa Cruz County Planning Department, indicates that the above described property is located within an area that is subject to geologic hazards, to wit:

The proposed development is located in an area of Coastal Erosion. A Geotechnical Engineering Report was prepared by Haro, Kasunich and Associates dated September 2008; Project Number SC9723 and Engineering Geology Report by Nielsen and Associates dated September 2008; Project Number SCr-2014-G indicate setbacks that will protect the home from coastal erosion. Please review these reports and the associated approval, Permit 08-0472, for additional information.

This property will also be subject to intense seismic shaking, and tsunami hazards.

In addition, having full understanding of said hazards and the proposed mitigation of these hazards, we elect to pursue development activities in an area subject to geologic hazards and do hereby agree to release the County from any liability and consequences arising from the issuance of the development permit.

This declaration shall run with the land and shall be binding upon the undersigned, any future owners, encumbrancers, their successors, heirs, or assignees. This document should be disclosed to the forgoing individuals. This declaration may not be altered or removed from the

records of the County Recorder without the prior consent of the Planning Director of the County of Santa Cruz.

OWNER: \_\_\_\_\_  
Signature

OWNER: \_\_\_\_\_  
Signature

ALL SIGNATURES ARE TO BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC. IF A CORPORATION, THE CORPORATE FORM OF ACKNOWLEDGEMENT SHALL BE USED.

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STATE OF CALIFORNIA, COUNTY OF SANTA CRUZ ss

On \_\_\_\_\_ before me \_\_\_\_\_,  
personally appeared

\_\_\_\_\_, personally  
known to me (or proved to me on the basis of satisfactory evidence) to be the  
person(s) whose name(s) is/are subscribed to the within instrument and  
acknowledged to me that he/she/they executed the same in his/her/their  
authorized capacity (ies), and that by his/her/their signature(s) on the instrument  
the person(s) or the entity upon behalf of which the person(s) acted, executed the  
instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public in and for said County and State

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We used the recent attenuation equations developed by Abrahamson and Silva (1997) to estimate the ground motion parameter of horizontal ground acceleration at the property. These attenuation equations are relative to the type of bedrock or thickness of recent sediments covering bedrock. We consider the earth materials underlying the property to be soft rocks. At a distance of 11 miles, the estimated average peak horizontal ground acceleration (APHGA) for a Moment Magnitude 7.9 earthquake is 0.26g. However, we recommend that at least one standard deviation also be considered raising the APHGA to 0.40g. These are deterministically derived values, but given the setting of the property in a high potential hazard zone, it is our opinion that these values should be seriously considered in any analysis.

These values are based on existing data and presently accepted models. We did not quantitatively consider near field effects in our estimates of ground acceleration. It is possible that the subject site may experience accelerations higher or lower than those predicted by the available attenuation curves. The science of predicting the attenuation of ground acceleration is constantly being researched, updated, and changed.

## CONCLUSIONS

1. The property is located on the Monterey Bay coastline on the west side of Sunny Cove between the cities of Santa Cruz and Capitola. There is an existing single family home on the property that was constructed in the early 1950's and essentially has remained unchanged since its construction.
2. The property is essentially flat but is fronted on two sides by steep coastal bluffs. On the east side adjacent to Sunny Cove, there is a 30 foot high bluff that slopes steeply over its top half which is composed of terrace deposit and is near vertical in its lower which is composed of sandstone bedrock. Along the south side of the property, there are two separate coastal bluffs - a terrace deposit bluff about 12 feet high and a bedrock bluff about eight feet high. These two bluffs are separated by an 85 foot wide, nearly level bedrock platform.
3. The property is underlain by two geologic units. Immediately underlying the property is a seven to ten foot thick coastal terrace deposit composed primarily of uncemented, poorly consolidated sand and silty sand. Beneath this is the Purisima Formation, a partially cemented sandstone. The sandstone is generally massive and very weakly jointed, joints being spaced on the order of 80 feet apart.
4. The bedrock shows very little evidence of being undercut as a result of wave action. The greatest degree of undercutting is along Sunny Cove Beach where a joint intersects the bedrock shore face. A small cavern about 20 feet deep and 15 feet wide has formed where bedrock has been plucked from the cliff face. This feature does not affect the upper portion of the property where the home is. The bedrock along the south side of the

property, which is continuously submerged and exposed to the brunt of ocean waves, shows no signs of undercutting.

5. Bluff retreat rates at the property have been minimal over the past 77 years. Aerial photographs dating from 1931 indicate that both the terrace deposit and bedrock coastal bluffs have retreated only a few feet during this period. The erosion or retreat rate is on the order of 0.06 ft/yr or about 6 feet in 100 years.
6. The property is located in a highly seismically active area and will probably be subjected to moderate, possibly severe, ground shaking during the lifetime of the home. Refer to the body of this report for additional information on estimates of ground motion from a large magnitude earthquake.

### **RECOMMENDATIONS**

1. New construction at the property should adhere to the designated building setback lines delineated on Plate 1 of this report. These lines are 25 feet back from the bluff edge on the south and east sides of the property.
2. A foundation engineer should evaluate the earth materials under the proposed addition area or new homesite and make recommendations for foundation design. The firm of Haro Kasunich and Associates is doing this, and we worked with them during this study.
3. A new home should be designed to withstand moderate ground shaking from an earthquake.
4. If any unexpected variations in soil conditions, or if any unanticipated geologic conditions are encountered during construction, or if the proposed project will differ from that discussed or illustrated in this report, we require to be notified so supplemental recommendations can be given.
5. We shall be provided the opportunity for a general review of final design plans and specifications. If we are not accorded the privilege of making the recommended reviews, we can assume no responsibility for misinterpretation of our recommendations.

## DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our investigation, the proposed residential construction appears compatible with site conditions, from a geotechnical standpoint, provided our recommendations are closely followed during the design and construction phases of the project.

Primary geotechnical concerns at the site include strong seismic shaking, adequate foundation support, and adequate control of surface runoff around the proposed improvements.

The project site is located within a seismically active area and strong seismic shaking is expected to occur over the lifetime of the project. Structures should be designed and constructed in accordance with the most current UBC-CBC (2007) and the recommendations of this report to minimize reaction to seismic shaking.

The following recommendations should be used to prepare design calculations and plans for the proposed residential construction.

### Site Grading

1. The geotechnical engineer should be notified at least four (4) working days prior to any site clearing or grading, so that the work in the field can be coordinated with the grading contractor, and arrangements for testing and observation services can be made. The recommendations of this report are based on the assumption that the geotechnical engineer will perform the required testing and observation services during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.
2. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557.
3. Areas to be graded should be cleared of all obstructions including loose fill, bushes not designated to remain, and other unsuitable material, ( i.e. cobbles greater than 6 inches in diameter). Existing depressions or voids created during site clearing should be backfilled with engineered fill.
4. Cleared areas should then be stripped of organic-laden topsoil. Stripping depth is typically from 2 to 6 inches. Actual depth of stripping should be determined in the

field by the geotechnical engineer. Strippings should be wasted off-site or stockpiled for use in landscaped areas if desired.

5. Areas to receive engineered fill should be scarified to a depth of 8 inches in slab and footing areas, moisture conditioned and compacted to at least 90 percent relative compaction.
6. Engineered fill should be placed in thin lifts not to exceed 8 inches in loose thickness, moisture conditioned and compacted to at least 90 percent relative compaction. Finished subgrade below concrete slabs-on-grade and pavement sections should be compacted to 95 percent relative compaction.
7. The majority of the on-site soil appears suitable for use as engineered fill. Materials for engineered fill should be granular, essentially free of organic materials, and contain no rocks or clods greater than 6 inches in diameter, with no more than 15 percent larger than 4 inches.
8. Following grading, all exposed slopes should be planted as soon as possible with erosion-resistant vegetation.

**Foundation - Conventional Spread Footings**

9. Based on the site and soil characteristics, an appropriate foundation system for support of the proposed residence will consist of continuous exterior and isolated interior, low bearing spread footings, bedded on firm native soil.
  
10. All spread footings should be at least 18 inches wide. The footings should be trenched at least 24 inches deep below lowest adjacent grade. If loose native material is exposed at the 24 inch footing excavation (the bottom of the trench excavation) must be compacted to 90 percent relative density (vibrating tumbler or hand held "whacker") to achieve adequate bearing capacity. Before compacting any soil, the material **must be moisture conditioned sufficiently**. Spread footings constructed to the given criteria may be designed for the following allowable bearing capacities:
  - a) 1,800 psf for dead plus live loads
  - b) A one-third increase for seismic and/or wind loading
  
11. Passive pressure may be developed equivalent to a fluid weighing 250 pcf. The upper 12 inches of in-situ soil should be neglected when calculating passive pressure.



12. Provided our recommendations are incorporated into the design and construction of the project, post-construction total and differential settlement of foundations is expected to be within tolerable limits.
13. Lateral load resistance for structures supported on spread footings may be developed in friction between the foundation bottom and the supporting soil. A friction coefficient of 0.38 is considered applicable.
14. All footings should be reinforced in accordance with applicable UBC and/or ACI standards, however, we recommend the continuous footings contain a minimum steel reinforcement of four (4) #4 bars; i.e., two near the top and two near the bottom of the footing.
15. The foundation trenches should be kept moist and be thoroughly cleaned of all slough or loose materials prior to pouring concrete. In addition, all footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 1.5:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

16. All footing excavations must be observed by the geotechnical engineer before steel is placed and concrete is poured to insure bedding onto firm native soil.

**Concrete Slab-on-Grade**

17. We recommend that proposed slab-on-grade be supported on at least 12 inches of compacted (redensified) native material. Prior to construction of the slab, the subgrade surface should be scarified 12 inches, moisture conditioned and compacted to 95 percent relative density to provide a smooth, firm, uniform surface for slab support. Slab reinforcing should be provided in accordance with the anticipated use and loading of the slab.
18. In areas where floor wetness would be undesirable, a blanket of 4 inches of free-draining gravel should be placed beneath the floor slab to act as a capillary break. In order to minimize vapor transmission, an impermeable membrane (10 mil minimum thickness) should be placed over the gravel. The membrane should be covered with 2 inches of sand or rounded gravel to protect it during construction. The sand or gravel should be lightly moistened just prior to placing the concrete to aid in curing the concrete.

19. It should be clearly understood that concrete slabs are not waterproof, nor are they vapor-proof. The aforementioned moisture retardant system will help to minimize water and water vapor transmission through the slab; however moisture sensitive floor coverings require additional protective measures. Floor coverings must be installed according to the manufacturer's specifications, including appropriate waterproofing applications and/or any recommended slab and/or subgrade preparation. Consideration should also be given to recommending a topical waterproofing application over the slab.

#### **Retaining Walls and Lateral Pressures**

20. Retaining walls should be designed to resist both lateral earth pressures and any additional surcharge loads. Unrestrained walls up to 8 feet high should be designed to resist an active earth pressure equivalent to a fluid pressure of 40 pcf for a level backslope and 55 pcf for sloping backfills inclined up to 2:1 (horizontal to vertical). The walls should also be designed to resist one half of any surcharge loads imposed on the backfill behind the walls.
21. Based on coordinate location and subsurface conditions at the site, the calculated seismic coefficient (k) for the site is 0.266 and the peak ground acceleration in firm rock is 0.41g. To account for seismic shaking, critical retaining wall design should

include a seismic surcharge of  $13H$  psf per foot of wall height where  $H$  is the height of the wall. Passive pressure may be developed equivalent to a fluid weighing 250 pcf. The upper 12 inches of in-situ soil should be neglected when calculating passive pressure.

### Wall Backdrains

22. The above lateral pressures assume that the walls are fully drained to prevent hydrostatic pressure behind the walls. Fully drained walls should be backfilled with drainage materials consisting of Class 1, Type A permeable material complying with Section 68-1.025 of Caltrans Standard Specifications, latest edition.
23. The drainage material should be at least 12 inches thick. The drains should extend from the base of the walls to within 12 inches of the top of the backfill. A perforated, rigid pipe should be placed (holes down) about 4 inches above the bottom of the wall and be directed to an energy dissipater located downslope of the garage. The energy dissipater location should be determined in the field by the project geotechnical engineer. Wall backdrains should be capped at the surface with clayey material to prevent infiltration of surface runoff into the backdrains. A layer of filter fabric (Mirafi 140N or equivalent) should separate the subdrain material from the overlying soil cap. Retaining walls used as interior living space walls should be

thoroughly waterproofed.

A representative of Haro, Kasunich & Associates should observe placement of drainage materials behind the retaining wall.

### **Flexible Pavements**

24. Pavement design was beyond the scope of our work. However, to have the selected sections perform to their greatest efficiency, it is important that the following items be considered:

- A. Moisture condition the subgrade and compact to a minimum of 95 percent relative compaction, at about 2 percent over optimum moisture content.
- B. Provide sufficient gradient to prevent ponding of water.
- C. Use only quality materials of the type and thickness (minimum) specified. Base rock should meet Caltrans Standard Specifications for Class II Aggregate Base, and be angular in shape.
- D. Compact the base rock to a minimum of 95 percent relative compaction.
- E. Place the asphaltic concrete during periods of fair weather when the free air temperature is within prescribed limits per Caltrans specifications.
- F. Provide a routine maintenance program.

**Site Drainage**

25. Proper control of drainage will be important to the project.
26. Surface drainage should include positive gradients so that surface runoff is not permitted to pond adjacent to the foundations. Surface drainage should be directed away from building foundations with at least 3 percent gradient for the first 5 feet.
27. Full roof gutters and down-spouts should be placed around all eaves. Discharge from the roof gutters should be conveyed away from the building foundation with closed pipe. This closed piped should convey water into hand-dug gravel filled seepage pits 2-feet by 2-feet by 3-feet deep located at least 15 feet from the perimeter of the residence, 15 feet from the southern bluff top edge and 25 feet from the eastern bluff top edge.
28. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Landscaping should be planned accordingly.

**Construction Observation and Testing**

29. Our firm should be provided the opportunity for a general review of the final project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. The recommendations presented in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.